NOTICE OF DETERMINATION

Including
Record of Comments and Responses

National Pollutant Discharge Elimination System (NPDES)
Tennessee General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4)
Permit No. TNS000000

August 31, 2010

Summary

The EPA issued NPDES regulations related to small municipal separate storm sewer systems (MS4s) on December 8, 1999. That final rule established a due date for small MS4s to apply for NPDES permit by March 10, 2003.

The Tennessee Division of Water Pollution Control decided to issue a general permit to cover the 85 cities and counties identified for regulation under the phase II program. This notice of determination (NOD) addresses comments presented at the hearing and submitted during the public notice period. It also presents TDECs decision regarding the permit and rationale for that decision.

Comments are shown below with TDECs response and proposed permit changes, as applicable. Written comments are, for the most part, shown verbatim. Lengthy comments have been paraphrased from multiple-page comments. The full length documents are available for review on request. Verbal comments from the public hearings are paraphrased. Comments are presented in the same order as sections in the draft permit, and marked correspondingly.

Administrative Record

The permit rationale (or fact sheet) dated March 22, 2010 sets forth the division's basis for permit conditions to be applied for the issuance of the Tennessee NPDES general permit for discharges of urban runoff from separate storm sewer systems.

On March 22, 2010, the division issued Public Hearing Notice PH10-006, which announced hearings to be conducted at the following locations and times:

April 26, 2010, **Nashville**, 1:30 pm CDT
401 Church Street, L&C Tower, 17th Floor
Nashville, TN 37243

April 27, 2010, **Chattanooga**, 1:30 pm CDT
Chattanooga State Office Building Auditorium, 1st Floor
540 McCallie Avenue
Chattanooga, TN 37402

April 28, 2010, **Knoxville**, 1:30 pm EDT
Knoxville Environmental Field Office
3711 Middlebrook Pike, Large Conference Room
Knoxville, TN 37921

Due to historic flooding in middle Tennessee area, May 3, 2010 hearing in Memphis had to be re-scheduled. On May 21, 2010, the division published new date for public hearing in Memphis:

June 21, 2010, **Memphis**, 1:00 pm CDT
Memphis Environmental Field Office
8383 Wolf Lake Drive
Bartlett, TN 38133

On March 22, 2010, the division issued Public Notice #MMX-006a, which announced its intent to issue the permit. The draft permit was made available in an electronic format on the division's web site at http://tn.gov/environment/wpc/stormh2o/MS4II.shtml. The NPDES permit was drafted in accordance with the provisions of the Federal Water Pollution Control Act, the Tennessee Water Quality Control Act, and other applicable standards and regulations. The division received comments through July 1, 2010. This NOD serves as the division's response to questions, comments and issues that were raised at the hearing and/or submitted during the subsequent comment period.

COMMENTS RECEIVED AND RESPONSES

1. **Comment** – The draft permit presents a number of proposed new and/or more detailed requirements as compared to the existing permit (2003). The most significant ones are the more specific and detailed approach to post-construction runoff standards; the added monitoring requirements with respect to impaired streams; the greater emphasis on plans and procedures to support the program; and likewise on documentation to quantify and give evidence of program activities and in some cases to give evidence of improvements to water quality. We generally support these changes, in terms of the emphasis on green technology in the post-construction standards and the added rigor to the program planning and documentation. We expect the added administrative and monitoring requirements will add to the cost of carrying out the stormwater quality program.

Response: Your summary adequately identifies what may be considered the most significant changes in the new permit. We suspect that different MS4 may have a slightly different take on amount of effort and resources required to achieve those goals. Ultimately, our goal is that post-construction requirements will provide increase of water quality and bring down the cost of development and BMP maintenance in the long run.

2. **Comment** – Some commenters suggested the same type of outline system used as in the existing MS4 general permit, due to convenience to be able to refer to specific permit requirements by numbered paragraph.

At the same time, some commenters supported our efforts to make the MS4 permit more readable by minimizing number of outlined paragraphs.

Response: We think the permit as drafted presents a good compromise between ability to refer to a particular section and readability.

3. **Comment**: Do the requirements of the State permit exceed those established by the EPA?

Response: No. The division used EPA's publication MS4 Permit Improvement Guide dated April 2010 in developing this general permit (EPA 833-R-10-001). The document can be located on the web at: http://www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf. All elements of this permit can be found in the guide.

4. **Comment (1a, 4.1.1 and 4.2.3)** – This permit needs to shorten the timelines for both newly permitted and previously permitted MS4s to keep the development of Stormwater Management Programs. It behooves the state to provide this regulatory trigger so that much of this can be put in place around the state while the building boom is slow. The proposed timelines are too lenient. The timeframe for permit requirements 1.a and 4.2.3 should be no greater than six months.

There is also concern regarding the 4 year timeframe for regulatory mechanisms for permanent stormwater management. Again, these types of programs exist and can be adequately duplicated and applied to a variety of MS4s. This can be achieved in 2 years and then provide for 3 years of evaluation before the next general permit is issued. A 4 year timeframe provides little time to assess implementation and possible improvements in this section for the next MS4 general permit.

Response: The division always encourages all parties involved in protecting waters of the state to stay ahead of schedule and minimize or eliminate discharge of pollutants as soon as possible. Although we share the commenter's interest in shortening all timelines, we believe that proposed deadlines are reasonable and adequate.

5. **Comment (1.3.1)** – It seems unrealistic to assume that the goals of the NPDES program can be achieved without including all cities and counties as MS4s, since all jurisdictions produce stormwater runoff and pollutants. In other words, it is unlikely that any plan for reducing pollutants in a specific waterway can be effective without including all jurisdictions through which waterways and its tributaries flow. Following the same waterways upstream from permitted MS4s in the rural areas of the state, cultivated land adjacent to waterways with no erosion protection, as well as livestock with full access to the same waterways can be observed.

Response: The commenter is correct to identify agricultural activities as a potential source of pollutants to the waters of the state. However, the Federal Water Pollution Control Act (Section 502.14) specifically excludes "*agricultural stormwater discharges and return flows from irrigated agriculture*" from the definition of point source.

6. **Comment (1.3.1) –** The operating area for the Hamilton County Program will be the urbanized area and the areas covered by the Interlocal Agreement dated March 10, 2004, and these areas will be specified in the Notice of Intent to be submitted after final permit is issued.

Response: We agree with the applicant's intent; the final permit will require no modification as a result of this comment.

7. **Comment (1.3.2)** – Several commenters expressed concern over MS4s being possibly responsible for non-urbanized portions of a county they are located in. Such expansion of MS4 responsibility would place undue burden on programs, which are already over-extended.

Response: As identified in Section 1.3.2 (Area of MS4 authorized) of the proposed permit, a city or town MS4 is only responsible for urbanized areas of the MS4 operated by, and within, that city or town. County MS4s, at a minimum, are only responsible for portions of the MS4 operated by the county within the urbanized area of that county. Counties may also choose to include additional portions beyond just the urbanized areas, up to including the entire county. Newly urbanized areas within the county MS4, as well as new areas annexed into a city MS4 must be added to that respective MS4 program area.

8. **Comment (1.3.2)** – This section is very unclear as to the area of coverage, and it was our understanding TDEC wished to address this in this new draft. 40 C.F.R § 122.26 (a)(1)(v) provides for the designation of discharges from an MS4 on a "*system-wide or jurisdiction-wide basis*." This is reiterated in § 122.26 (a)(3)(ii). The area of permit coverage should extend to all land falling under the jurisdiction of the permitted MS4. This requires the application of permit coverage to non-urban areas of a county if the county is designated as an MS4.

Response: A reference to a system-wide or jurisdiction-wide basis is related to an area defined as the municipal separate storm sewer system. Within that area, the MS4 can be owned and operated by one (system-wide) or more (jurisdiction-wide, adjacent and/or interconnected) municipalities. It does not mean the division can arbitrarily designate non-urban portions of the state as the area of permit coverage.

9. **Comment (1.4)** – In comparing the prior permit to the new draft, there are two paragraphs that specify MS4s are not authorized to discharge if the activity would cause a prohibited "*take*" of an endangered or threatened species or jeopardize the continued existence of any listed species under the ESA. Where have these sections gone in the new draft permit?

Response: See paragraph **f** in the **sub-part 1.4** of the new permit.

10. **Comment (1.4)** – Is consultation with USFWS in regards to protection of threatened and endangered species necessary "*annually*" if conditions/situations remain unchanged?

Response: Consultation, for the purpose of compliance with this permit, means providing information or updated information to an agency (in this case, USFWS). If conditions/situations remain unchanged, USFWS should be updated annually to that effect.

11. **Comment (1.4)** – The draft permit states that certain discharges are NOT authorized by the permit, including (1.4.g) discharges would cause or contribute to an in-stream exceedance of water quality standards. Further, section 1.4.h states that discharges of ANY pollutant are not allowed where there is a TMDL. For example, if litter/trash is discharged through a regulated outfall to a stream that has a TMDL for sediment

then the situation is a violation of this section of the permit. There are no qualifications on these limitations. Therefore, they are "zero" tolerance level limitations that are impossible to adhere to, and are unrealistic for an MS4. Can TDEC please provide clarification on these limitations?

Response: Discharge of trash/litter through a regulated outfall to a stream that has a TMDL for sediment would not be considered a violation of this section of the permit. The intent of the permit is to protect and, where applicable, assist in restoring designated uses of receiving streams. In the case of stream segments where there is a TMDL, the implementation portion of the TMDL describes how should any point source, including MS4s, comply with waste load allocations. Permit requirements for discharges into water quality impaired waters, particularly "Discharges into Waterbodies with EPA-Approved or Established TMDLs" are described in section 3.1.1.

12. **Comment (1.4)** – Section 1.5.8 from the current (previous) permit, which excludes the MS4 general permit from authorizing discharges which do not comply with the state's anti-degradation policy should not be removed from sub-part 1.4 – Limitations of Coverage.

Response: The following language was added to the final version of the permit:

> *"Discharges that do not comply with the division's anti-degradation policy for water quality standards, pursuant to the Rules of the Tennessee Department of Environment and Conservation (TDEC), Chapter 1200-4-3-.06, titled "Tennessee Antidegradation Statement."*

13. **Comment (3.1) –** Phrases "*established or*" and "*EPA-established*" should be added to sub-part 3.1 – Discharges to impaired waters. The sentence should be moved to the second paragraph.

Response: Suggested language was added to the final permit. The sentence was moved to the beginning of the second paragraph.

14. **Comment (3.1) –** The MS4 Permit Improvement Guide has a Retrofit Plan section under Chapter 5 on Post-Construction Stormwater Management Program that does not appear to be in the draft MS4 Phase II permit. As stated in the guide: "*It is clear that we cannot protect the nation's waters without also addressing degradation caused by stormwater discharges from existing developed sites. For that reason stormwater programs must include substantive retrofit provisions*."

Language to work from for the draft permit is in the guide (p. 64-65). The Harpeth River Watershed Association as part of its EPA grant, used the Center for Watershed Protection's Integrated Watershed Model to develop a subwatershed plan on a 303(d) listed stream to demonstrate how such plans can be used to address pollutant reduction and TMDL load reduction goals. The watershed plan is on HRWA's web site at www.harpethriver.org in the Library section. The MS4 Permit Improvement Guide refers to the CWP's Stormwater Retrofit Practices. In addition, EPA's 2008 draft TMDLs to Stormwater Permit Handbook that is being updated now has many examples of how to develop these plans that are based on meeting TMDL WLAs and load reductions for 303(d) streams.

This draft permit needs a section that requires subwatershed retrofit plans are prepared based on TMDL WLAs that apply in the jurisdiction within 3 years of the permit. Likely this new section needs to be connected with section 3.1 that addresses TMDLs, impaired and exceptional waters.

Response: The permit requires redevelopment activities to include permanent stormwater management practices, and analytical and visual assessments to identify and terminate sources of stormwater pollutants, including those generated by the existing stormwater infrastructure itself. The permit also requires the identification and termination of pollutants from existing land use activities identified as hot spots. The EPA permit guidance does note that the improvement of water quality in many urban receiving water requires more than just a redevelopment program. However it also acknowledges that some permittees may not be ready to have retrofit plans as part of their requirements. Ultimately, it's up to the permit writer to make this determination. From an iterative permit process standpoint, we feel a retrofit plan requirement would potentially be appropriate in the next permit cycle, but not as part of this one.

15. **Comment (3.1.1) –** In a letter to the Division dated April 15, 2010 from EPA Region 4, requirements were provided on how TMDLs should be implemented by MS4 permittees. The permit requirements are not "clear, specific and measurable" as required by this letter, nor do they include any of the recommended approaches to implementation of the TMDL. Language in Section 3.1.1 is broad and at no point does it provide for an assessment of implementation or water quality improvement as intended by the TMDL. EPA went so far as to provide recommendations including identification of enhanced control measures or BMPs, benchmarks which trigger adaptive management requirements, and BMP review and evaluation. These need to be incorporated into the draft permit language.

Response: We maintain the general permit follows EPA's recommendations and applicable rules and regulations. This was confirmed in the EPA Region 4 approval letter signed by Mr. James D. Giattina, Director, Water Protection Division, dated May 14, 2010, which states, in part: "*EPA commends Tennessee for the inclusion of requirements and performance standards in the permit that are clear, specific, measurable, and enforceable.*"

16. **Comment (3.1.1) –** This section contains specific requirements related to MS4 discharging to TMDL waterbodies. Do these same requirements apply if the MS4 is located within the drainage area to the TMDL waterbody but doesn't discharge directly into the waterbody?

Response: If an MS4 is located downstream from the segment or segments identified in a TMDL document, section 3.1.1 would not apply. If an MS4 is located upstream from a segment or segments identified in the TMDL, determination of applicability is more difficult to make. Applicability would depend on a distance from an impaired segment, drainage area of the point source, as well as presence and loading of a pollutant of concern. Such situations should be resolved on a case-by-case basis through a consultation with the division.

17. **Comment (3.1.1) –** How will MS4s address TMDLs for habitat alteration in determining BMPs to incorporate into their stormwater programs?

Response: Habitat alteration is a physical alteration of a stream that causes a loss of habitat. It is typically caused by buildup of sediment deposits as a result of point and non-point contributions or changes in stream hydrology resulting in bank destabilization and in-stream siltation. Both main causes of habitat alteration are addressed in this permit: construction storm water runoff and post-construction stormwater management. MS4s must select stormwater management practices that are expected to improve stream segments identified as impaired due to habitat alteration resulting from MS4 discharges, development activities and urbanization. These practices may include, but not limited to, protection of water quality buffers, physical stream restoration, and habitat improvement projects. In addition, MS4s will be required to comply with an implementation section of TMDLs for habitat alteration.

18. **Comment (3.1.1) –** Additional clarification regarding the requirement for implementation of applicable wasteload allocation (WLA) should be provided in section 3.1.1.

Response: Section 3.1.1 was modified to read as following:

> *"The MS4 must implement stormwater pollutant reductions consistent with assumptions and requirements of any applicable wasteload allocation(s) in TMDLs established or approved by EPA. If an MS4 discharges into a water body with an approved or established TMDL, then the Stormwater Management Program must include BMPs specifically targeted to achieve the wasteload allocations prescribed by the TMDL. The SWMP must include a schedule for installation of such BMPs."*

19. **Comment (3.1.2) –** Within what timeframe does the Stormwater Management Plan (SWMP) have to be finalized and submitted to TDEC for approval?

Response: The final permit does not have a requirement for the SWMP to be submitted to the division or its field offices for review and/or approval. In order to further clarify this point, the following sentence was added to the definition of the SWMP: "*There is no requirement for the SWMP, or its portions, to be submitted to the division, unless requested by the division in writing*."

20. **Comment (3.1.2 and 4.1) –** In the definitions, the acronym SWMP is used to apply to the stormwater management program. However, in a few places in the permit (such as part 4, and sub-part 4.1, Stormwater Management Program (SWMP), the acronym seems to be used to mean the written stormwater management plan. We request the permit be clear on this point. In part 4.1, for instance, the sentence that begins "*The SWMP must include the following information*" seems to refer to the stormwater management plan. In section 3.1.2, there is a requirement to "*document in the SWMP how the BMPs will control the discharge of pollutants of concern,*" also apparently referring more to the plan (a document) than to the program itself.

Response: In order to minimize confusion or interchangeable use of these terms, abbreviation SWMP was used exclusively as a reference to the Stormwater Management Plan, which is a written compilation of the elements of the Stormwater Management Program. No abbreviation was used for references to the Stormwater Management Program.

21. **Comment (3.1.2) –** Language in section 3.1.2 - Discharges to Impaired Waterbodies without EPA-Approved TMDLs should be changed from "*discharge will not further the impairment*" to "*discharge will not cause or contribute to a water quality violation*."

Response: Section 3.1.2 was modified to say: "*discharge will not contribute to an impairment*." The discharge cannot cause, only contribute to a water quality violation if a receiving stream was already designated as impaired.

22. **Comment (3.1.2) –** It is recommended that a more stringent monitoring requirement be put in place for stream segments within the MS4 covered under a TMDL. In compliance with EPA's April 15, 2010 letter, the MS4 should first "*establish a baseline that characterizes the relative pollutant load contributions from the areas of the MS4 that discharge to waters subject to a TMDL*." This draft permit fails to include this requirement and contains no conditions for the MS4 to assess load contributions.

Response: We maintain the general permit follows EPA's recommendations and applicable rules and regulations. This was confirmed in the EPA Region 4 approval letter signed by Mr. James D. Giattina, Director, Water Protection Division, dated May 14, 2010, which states, in part: "*EPA commends Tennessee for the inclusion of requirements and performance standards in the permit that are clear, specific, measurable, and enforceable.*"

23. **Comment (3.2) –** As was the case during the first permit period, the evaluation procedure Protection of State or Federally Listed Species in sub part 3.2 remains unclear. The Stormwater Planning Group suggests that the burden of evaluating the potential impact of development relative to endangered species be referred to TWRA or USFWS. Local government staffs do not have the required level of expertise for this evaluation.

Response: We acknowledge the complexity for determination of eligibility, but are not in position to remove a necessary provision from the permit based on staffing issues at a local level. Nevertheless, the evaluation procedure has been simplified when compared with a previous permit. We encourage MS4s to utilize expertise and resources from TDEC, TWRA, EPA or the US Fish and Wildlife Service, or other regulatory agencies.

24. **Comment (4.1) –** A requirement to submit a copy of the Stormwater Management Plan with the first year's annual report should be added to part 4 – Stormwater Management Program, sub-part 4.1- Requirements.

Response: The following sentence was added to sub-part 4.1- Requirements:

> "*The Stormwater Management Plan shall be compiled within the first year of the permit cycle and submitted as an attachment to the first annual report*."

25. **Comment (4.1) –** This section states that measureable goals and months and years in which the MS4 will undertake actions must be provided. Several of the mandated schedule items in the permit are indicated as months, as opposed to just years. Are these the only activities that must have a month and year with the activities? In other words, is it enough to note in the NOI the year that an activity will be completed rather than the month, unless the activity deadline is explicitly included in the permit language?

Response: It is enough to note in the NOI the year that an activity will be completed rather than the month, unless the activity deadline is explicitly included in the permit language.

26. **Comment (4.1) –** Following paragraphs should be added to part 4 – Stormwater Management Program, sub-part 4.1- Requirements:

> "*d. Pollutant control efforts for all municipal-operated facilities that maintain or store motorized equipment, oils, or other hazardous materials;*
> *e. All inspection and monitoring programs shall be described in detail in the SWMP*."

Response: Above paragraphs will be added to the final permit at the suggested location.

27. **Comment (4.1.2) –** A table in section 4.1.2 incorrectly cross-references part 1a in regards to "*Modifications to ordinance or other regulatory mechanism for construction site runoff control program consistent with requirements of current NPDES general permit for construction stormwater runoff*." There is no part 1a in the draft permit.

Response: The final permit was corrected to reference paragraph a in section 4.2.4.

28. **Comment (4.2.1) –** Following language should be added to the section 4.2.1 – Public Education and Outreach:

"By the end of PY1, the permittee shall develop a Public Information and Education Plan (PIE) that details specific goals and specific public information events/activities that will occur over the remainder of the permit cycle. The PIE shall incorporate components from outreach campaigns and one on one communications and shall incorporate a mode to evaluate the plan's effectiveness so adjustments can be made (if necessary) The PIE shall also include targeted educational campaigns addressing the following issues:

- *i. General public awareness on the impacts on water quality from general housekeeping maintenance/activities.*
- *ii. Home owner associations and other operators of permanent BMPs awareness of the importance of maintenance activities*
- *iii. Local engineering and development community awareness of the stormwater ordinances, regulations, and guidance materials related to long-term water quality impacts.*
- *iv. General public and professional chemical applicators awareness on the proper storage, use, and disposal of pesticides, herbicides, and fertilizers use.*
- *v. General public and professional chemical applicators awareness on the proper storage, use, and disposal of oil and other automotive-related fluids.*
- *vi. General public and municipal employees on the awareness of identifying and reporting procedures for illicit connections/discharges, sanitary sewer seepage, spills, etc.*
- *vii. Local engineering, development, and construction community awareness of stormwater ordinances, regulations and guidance materials related to construction phase water quality impacts; and*
- *viii. Municipal employee/contractor awareness of water quality impacts from daily operations."*

Response: The division agrees and will incorporate into the permit.

29. **Comment (4.2.1) –** The draft permit presents a number of possible public education and citizen involvement practices. Three questions/comments follow:

a. A citizen's advisory council is suggested as an element to foster public participation in the MS4 program. The Stormwater Group opposes any future effort to make such a group mandatory. A citizen's advisory council is a redundant activity in light of the many watershed groups that currently exist in our region. Local MS4 staff around the region routinely participate in the group meetings and projects. In addition, the local MS4's have formal oversight provided by their respective elected governing bodies.
b. Is participation in the WaterWorks program sufficient to comply with section 4.2.1?
c. Is attendance/participation in meetings and activities of local watershed groups, along with compliance with all state and local public notice requirements sufficient to comply with section 4.2.2?

Response: Question a: The current permit only suggests using citizen's advisory council as a public education and citizen involvement practice. The division cannot stipulate whether such requirement may become mandatory in the future. Question b: Participation in the WaterWorks program itself is not sufficient to comply with section 4.2.1. Question c: Attendance/participation in meetings and activities of local watershed groups, along with compliance with all state and local public notice requirements are two of several suggested activities in section 4.2.2, and are not considered sufficient to comply with the section.

30. **Comment (4.2.2) –** For the second paragraph in the section 4.2.2 - Public Involvement and Participation, the permit should use the word "*publicize*" instead of the phrase "*provide public notice of*." The reference to "*public notice*" connotes legal notice, and this would be unnecessary for most public participation opportunities. Many public participation opportunities target specific groups of people for the activity (e.g., schools, watershed groups, neighborhoods), and a formal public notice is not the best means to advertise the event.

Response: Phrase "*provide public notice of*" was replaced with the word "*publicize*", as suggested.

31. **Comment (4.2.2) –** The commenter suggested a timeline for implementation of 6 minimum measures (and other permit requirements) should be the same for new and existing permittees. For example, the fourth paragraph in the section 4.2.2 - Public Involvement and Participation, was to be changed to say:

> *"MS4s shall develop, continue to develop and implement a method of advertising the public involvement opportunities listed above. ~~Newly designated MS4s shall have this advertising method implemented within 180 days of coverage under this permit. Currently permitted MS4s~~ The permittee shall develop and implement the advertising method within 30 days of coverage under this permit. The MS4 may develop a website that includes information that will inform stakeholders of actions that will result in behavior changes that will improve water quality, provide a press release or advertisement of activities to local cable networks, radio stations and/or newspapers, or other alternate method that provides an effective equivalent."*

Response: It is our best estimate that establishing framework for public involvement and participation requires more than 30 days. Developing this or any other of the 6 minimum measures in haste will not result in better protection of the waters of the state. Therefore, the final permit will retain a schedule of compliance for new permittees.

32. **Comment (4.2.3) –** In Section 4.2.3 - Illicit Discharge Detection and Elimination, reconsider the placement of subparagraphs a. and b. under the heading of a "*plan to detect and eliminate non-stormwater discharges, including illegal disposal.*" Subparagraph a. refers to education about non-stormwater discharges and subparagraph b. refers to the distinction between innocuous and harmful non-stormwater.

Normally, a plan to detect and eliminate non-stormwater discharges involves other activities; e.g., field reconnaissance, analytical testing, infrared photography, site inspections. Thus, the placement of subparagraphs a. and b. (dealing with education and allowed non-stormwater discharges) under the heading "a plan to detect and eliminate non-stormwater discharges" is confusing. The subparagraphs a. and b. seem to be general components of an illicit discharge detection and elimination program, not ones especially related to "*a plan to detect and eliminate*."

The commenter recommended, at the least, to eliminate the a. and b. subheading designations, making the two paragraphs stand alone along with the others in this section.

Response: Subheadings a. and b. were removed, as suggested.

33. **Comment (4.2.3) –** The commenter requested that the last paragraph in Section 4.2.3 - Illicit Discharge Detection and Elimination, related to spill response and cleanup be deleted completely, or replaced with something like the following:

> *"The MS4 shall inform local spill-response agencies of the potential negative impacts to surface water (and ground water) of spill clean-up activities, that is, the potential for the response to cause pollutants to enter waters of the state. If a set of guidelines and procedures is not already in place, the MS4 should initiate a cooperative effort to develop a set of guidelines and procedures that local responders will follow to minimize damaging effects that spill response activities might have on water resources."*

The local MS4 is not necessarily in a position to ensure that local agencies, much less TEMA, participate in a water quality-related program. We don't expect that these agencies are going to be opposed to incorporating water quality protection in their procedures, but we oppose a permit requirement that makes the MS4 responsible for their procedures. Some MS4s may house the agency that leads local response teams, but this is not the case with all MS4s.

Response: The last paragraph in this section was edited to read:

> *"The MS4 shall foster interagency coordination of hazardous waste or material spills response and cleanup. The MS4 shall inform local spill-response agencies and/or TEMA (Tennessee Emergency Management Agency) of the potential negative impacts to surface water (and ground water) of spill clean-up activities, that is, the potential for the response to cause pollutants to enter waters of the state. If a set of guidelines and procedures is not already in place, the MS4 should initiate a cooperative effort to develop a set of guidelines and procedures that local responders will follow to minimize damaging effects that spill response activities might have on water resources.*

34. **Comment (4.2.3) –** Section 4.2.3 - Illicit Discharge Detection and Elimination, in accordance with EPA's April 15 letter, needs more specific information on inspections and on-going field screening activities. Explicit requirements for the inclusion of these components in local programs is necessary, along with the associated "*measurable and enforceable requirements*" associated with these activities which need to be addressed in this section.

Response: We maintain that the general permit follows EPA's recommendations and applicable rules and regulations. This was confirmed in the EPA Region 4 approval letter signed by Mr. James D. Giattina, Director, Water Protection Division, dated May 14, 2010, which states, in part: "*EPA commends Tennessee for the inclusion of requirements and performance standards in the permit that are clear, specific, measurable, and enforceable.*".

35. Comment (4.2.3) – The following language suggests that existing hot spot land uses must be retrofitted with stormwater treatment BMPs: "*The MS4 must be able, by ordinance or other regulatory mechanism, to prohibit contamination of stormwater runoff from hot spots*." Is this the correct interpretation?

Response: Retrofitting stormwater treatment BMPs is only one of the methods that can be used to prohibit contamination of stormwater runoff. The division's preferred approach would be removal of the source of contamination.

36. **Comment (4.2.3) –** The following language should be added to Section 4.2.3 - Illicit Discharge Detection and Elimination:

> *"4.2.3.1 Investigations of non-storm water discharges:*
>
> *a) The permittee shall develop and implement standard procedures to be followed to investigate portions of the MS4 that, based on the results of the field screen or other identification programs, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.*

b) Notification to the Division of Water Pollution Control of any illicit connection shall be an element of the standard procedures. (Timeframe Requirement?)

c) The permittee shall set up, train and maintain at least two staff members dedicated to investigating illicit discharges and/or improper disposal and shall purchase and maintain the equipment necessary to the effort.

d) Investigations, and results of all non-stormwater discharge investigations, including locations, times, parameters and sampling results, discovered sources of flows, etc. shall be documented electronically."

Response: The fourth paragraph in Section 4.2.3 has been modified to read:

"Develop and implement a plan to detect, identify and eliminate non-stormwater discharges, including illegal disposal, to your system. The permittee shall develop and implement standard procedures to be followed to investigate portions of the MS4 that, based on the results of the field screening or other identification programs, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water. Investigations, and results of all non-stormwater discharge investigations, including locations, times, parameters and sampling results, discovered sources of flows, etc. shall be documented."

37. **Comment (4.2.3) –** The following language should be added to Section 4.2.3 - Illicit Discharge Detection and Elimination:

"4.2.3.2 Outfall Field Screening:

The permittee shall continue a field screening program on major MS4 outfalls that incorporates the following items:

a) The permittee shall update and implement revisions as needed in the ongoing program to determine whether non-storm water entries are present in the storm drainage system, and to identify locations and sources of non-storm waters. Field screening of outfalls shall be focused on industrial and commercial land use areas. The permittee shall update the field screening grid database once per permit cycle to reflect changes to land use activities in the industrial/commercial areas.

b) The permittee shall set up, train and maintain at least two person(s) that can perform field screening activities and shall purchase, if necessary, and maintain the equipment necessary to perform the effort.

c) Field screening activities, including locations, times, parameters and sampling results, discovered sources of flows, etc. shall be documented in an electronic database format that can be linked to the Geographic Information System. The data must be documented so that they can be tracked, organized and otherwise analyzed via computer.

d) The minimum level of surveillance for the field screening program shall be based upon a 0.25-mile grid system, with each grid area containing at least one field screening field screening major outfall, as defined in this permit, or nearest equivalent. Under this program,

all grid areas of the MS4 must be screened once during the permit cycle. Some grid areas may require more than one location to be screened or a more frequent inspection schedule, based on land use makeup and/or drainage system."

Response: See response to comment #36.

38. **Comment (4.2.3) –** The following language should be added to Section 4.2.3 - Illicit Discharge Detection and Elimination:

"4.2.3.3 Limitation of sanitary sewer seepage

The permittee shall institute routine reconnaissance measures to identify potential sanitary sewer leaks, line breaks, overflows, or septic tank failure. Once sanitary sewer issues are identified, the permittee shall ensure that corrective actions are performed in a timely manner."

Response: Illicit Discharge is defined at 40 CFR §122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities. Sanitary sewer leaks, line breaks, overflows or septic tank failures are already included in this definition.

39. **Comment (4.2.3) –** The last paragraph of section 4.2.3 states: "*Documented illicit discharges shall be eliminated as soon as possible, but no more than 10 days from detection*." Several commenters expressed concern over the 10 day deadline proposed for elimination of illicit discharges. Scenarios were presented where meeting the 10 day deadline would be unlikely. The commenters requested that the requirement be eliminated, changed to a recommendation, replace the word "*eliminated*" with a phrase "*responded to*", or managed via the Enforcement Response Plan.

Response: The sentence was changed to say: "*Documented illicit discharges shall be responded to no more than 7 days from detection, and eliminated as soon as possible*."

40. **Comment (4.2.3) –** TDEC should provide guidance on how to coordinate between the TN State Health Department and Water Pollution Control to execute effective Enforcement Response Plans related to sanitary sewer and septic issues.

Response: The division will allocate resources and coordinate activities with the Tennessee Department of Health to assist municipalities in sanitary sewer and septic issues. The division, however, has no regulatory authority or intention to control communication between municipalities and Department of Health or any other state department.

41. **Comment (4.2.3) –** A disparity exists between the illicit discharge contribution of Agriculture and Forestry industries and residential illicit discharges. The existing regulatory approach implied by the permit language does not address agricultural and forestry contributions to water quality problems. TDEC should grant MS4s authority for addressing pollutant discharges from agricultural and forestry sources.

Response: The commenter is correct to identify agriculture and silviculture as potential sources of pollutants to the waters of the state. However, the Federal Water Pollution Control Act (Section 502.14) specifically

excludes "*agricultural stormwater discharges and return flows from irrigated agriculture*" from the definition of point source. Furthermore, Tennessee Water Quality Control Act of 1977, Section 69-3-120.g) states, in part: "*Nothing whatsoever in this part shall be so construed as applying to any agricultural or forestry activity or the activities necessary to the conduct and operations thereof or to any lands devoted to the production of any agricultural or forestry products, unless there is a point source discharge from a discernible, confined, and discrete water conveyance*."

42. **Comment (4.2.4) –** Section 4.2.4 - Construction Site Stormwater Runoff Control of the permit refers two or three times to site plan, in referring to "*the date the MS4 approved the site plan*," and "*specific procedures for site plan (including erosion prevention and sediment controls) review and approval*."

In the context of this section, it can be assumed that site plan refers to a construction-phase plan, which would focus on stormwater controls during the construction phase. Usually, site plan, in the parlance of local government refers to a plan showing the planned buildings, pavement, landscaping, driveways and roads that a land developer submits to a planning department for consideration and approval. Thus, the use of the word site in referring to a construction site, differs from the use of the word site in the phrase site plan. Please clarify the meaning of site plan as referred to in section 4.2.4., especially as used in paragraph f.

The permit should consistently distinguish between construction-phase plans (e.g., construction plans, construction site plans, EPSC, SWPPP) and development plans (e.g., site plans, subdivision plans, plats, planned unit developments). Generally, development plans touch on issues of post-construction (permanent) storm water controls; whereas construction-phase plans, of course, deal with construction site runoff control.

In section 4.2.4, does the term site plan refer to a plan focusing on erosion prevention and sediment control (EPSC), akin to the storm water pollution prevention plan (SWPPP) required under the Tennessee CGP? Or, does site plan refer to those site plans which address proposed land development, including proposed grading changes; layout of building and pavement, vehicle flow directions; drainage and utility infrastructure, landscaping?

Paragraph d. lays out the requirement that the MS4 maintain an inventory of active construction sites. Paragraph d. goes on to state that this inventory must include the "*date that the MS4 approved the site plan*," thus implying that the site plan has to do with construction activity; i.e., an EPSC plan or SWPPP.

Paragraph f. speaks of "*procedures for site plan (including erosion prevention and sediment control) review and approval*." If the site plan refers to land development plans, then we suggest that this requirement be integrated into section 4.2.5.4, in which paragraph b. deals with "*procedures for site plan review and approval*."

Response: The permit has been revised to distinguish between "*construction site plan*" and "*development plan*."

43. **Comment (4.2.4) –** Schedules for implementing components of the program are not consistent for newly designated MS4s. Specifically, new MS4s have 48 months after permit coverage to fully implement their construction site runoff control program. However, paragraph d. of this section notes that the inventory must be developed within 12 months of coverage. We recommend the following language for paragraph d:

> *"The MS4 must develop and maintain an inventory of all active public and private construction sites that result in a total land disturbance as defined in paragraph 4.2.4. For*

existing MS4s, the inventory must be completed within 12 months of coverage under this permit and must be updated as new projects are permitted and projects are completed. For new MS4s, the inventory must be completed with 24 months of coverage and must be updated as noted above for existing MS4s."

Response: The suggested language was added to the final permit.

44. **Comment (4.2.4) –** Paragraph 4.2.4.d in the permit states: "*The MS4 must develop and maintain an inventory of all active public and private construction sites that result in a total land disturbance as defined in section 4.2.4. The inventory must be completed within 12 months of coverage under this permit and must be updated as new projects are permitted and projects are completed. The inventory must contain relevant contact information for each project (e.g., tracking number, name, address, phone, etc.), the size of the project and area of disturbance, whether the project has submitted for permit coverage under the Tennessee Construction General Permit (TNR100000) and the date the MS4 approved the construction site plan. The MS4 must make this inventory available to TDEC upon request.*" This requirement seems redundant since TDEC already tracks and posts a list of permitted sites on their website.

Response: To effectively conduct inspections, the permittee must know where construction activity is occurring. A construction site inventory tracks information such as project size, disturbed area, distance to any waterbody or flow channel, when the erosion and sediment control/stormwater plan was approved by the permittee, and whether the project is covered by the division's construction general permit. This inventory will allow the permittee to track and target its inspections. The division is ready to share information regarding permitted construction sites, and also plans to publish this information on the web for ease of access.

45. **Comment (4.2.4) –** Section 4.2.4. - Construction Site Stormwater Runoff Control, paragraph g, states: "*Procedures for managing public input on projects: The MS4 must have mechanisms for public access to information on projects and receiving and considering comments from the public on those projects. It is recommended that the MS4 uses the world wide web for facilitating public involvement*." Local planning commissions allow for most public comments on new development. Is the intent of the proposed permit to duplicate this process? Does this section pertain only to comments directly relating to stormwater quality and/or quality considerations of a proposed project? Do TDEC Construction General Permit NOIs allow for public comment to TDEC? Does it pertain to having a mechanism to receive and respond to complaints that are received about open construction sites, or to have a mechanism to receive public comments at the site plan review stage? If the latter, we do not understand the necessity of receiving comments on erosion control plans/issues prior to site grading and construction?

Response: It is not the intent of the permit to duplicate this, or any other process already employed by any municipality. If a local planning commission does have an established public review and comment process, which incorporates elements described in the above quoted paragraph, it can be used as means to establish compliance with the general permit. This section pertains only to water-quality related issues and considerations for a proposed project. TDEC's Construction General Permit NOIs does not mandate public comments to be submitted.

46. **Comment (4.2.4) –** This MS4 general permit should address the inclusion of the updated general construction permit into the local government's program after coverage has been issued. Paragraph **h** of the section 4.2.4 - Construction Site Stormwater Runoff Control needs to include the requirements in EPA's April 15 letter. Specifically, the following must be included: initial site plan review prior to construction initiation,

site inspection time intervals with a minimum inspection frequency, the minimum percentage of sites inspected over a specific timeframe and coordinating inspections to rain events. Paragraph **j** of the section 4.2.4 - Construction Site Stormwater Runoff Control states:

> *"j. The MS4 program must provide for the following:*
>
> - *Identification of priority construction activity;*
> - *Pre-construction meetings with construction-site operators for priority construction activity; and*
> - *Inspections by the MS4 of priority construction sites at least once per month."*

What constitutes a priority construction site? How often should non-priority construction sites be inspected?

Response: Initial site plan review prior to construction initiation is already a requirement in the permit, as presented in the above-quoted paragraph **j** of the section 4.2.4. Pre-construction meetings are required for "*priority construction activities*," which are to be identified by the MS4. A definition of a priority construction activity can be found in part 7 of the permit (internal document hyperlinks were added where appropriate). Requiring a pre-construction meeting for *every* soil disturbance within an MS4 jurisdiction would place an unnecessary burden in terms of personnel and resources both for the MS4 and development community. Frequency of monitoring for non-priority construction sites is not mandated in the permit.

47. **Comment (4.2.4) –** Since the NOC for a construction permit requires the permit holder to perform periodic inspections by a qualified inspector it seems redundant to have the MS4 perform inspections as well. The commenter suggested one or the other of these inspection requirements be deleted. TDEC should define the term "*construction site operator*".

Response: Inspections by trained MS4 personnel are necessary to evaluate compliance with local ordinance requirements (as well as this permit). The definition of a construction site operator was added to the final permit.

48. **Comment (4.2.4) –** Section 4.2.4. - Construction Site Stormwater Runoff Control, paragraph i, states: "MS4 staff training: Inspectors must maintain certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 1 (or equivalent). Construction site plan reviewers must receive a certificate of completion from the Tennessee Erosion Prevention and Sediment Control Design Course, Level 2. It is recommended that MS4 staff receive training under both courses." This paragraph should be changed to read: "All MS4 staff should be certified as being current on all educational requirements needed to implement the construction general permit".

Response: We expect that typical MS4 staff will consist of a wide variety of experts and technical and non-technical staff. Not all MS4 staff is expected to be involved in implementing the construction general permit. Therefore, a requirement to have all staff certified as being current on all educational requirements needed to implement the construction general permit is unnecessary and overreaching.

49. **Comment (4.2.4) –** Section 4.2.4. - Construction Site Stormwater Runoff Control, paragraph i, requires for construction site plan reviewers to receive a certificate of completion from the Tennessee Erosion Prevention and Sediment Control Design Course, Level 2. After reviewing agenda for the said course, at appears that all these concepts would be covered in-depth in most any ABET certified Civil Engineering

curriculum. B.S. in Civil Engineering or a professional engineer's license should also qualify staff for performing site reviews.

Response: We do not disagree that concepts presented in the Tennessee Erosion Prevention and Sediment Control Design Course, Level 2 may be covered in other academic and professional certification programs. However, the course in question is specifically designed for furthering compliance with EPSC requirements in the state of Tennessee, and will remain as a requirement in the final permit.

50. **Comment (4.2.5) –** A sentence in Section 4.2.5 – Permanent Stormwater Management should be modified to provide additional clarification regarding permit expectations to address situations when runoff reduction and and/or pollutant reduction cannot be fully accomplished.

Response: The third sentence of sub-section 4.2.5.2 was modified to read as following:

> *"If runoff reduction and/or pollutant removal cannot be fully accomplished on-site per 4.2.5.2.1 and 4.2.5.2.2, then the MS4 may propose off-site mitigation and/or payment into a fund for public stormwater projects."*

51. **Comment (4.2.5.1) –** A proposed post-construction buffer is required along all streams at new development and redevelopment projects. Who determines what a stream is? Is there a map or a reference document to be used in a stream determination process? It appears that the definition for wet weather conveyance mimics that of an ephemeral stream. What type of hydrological determination would be applied to an ephemeral stream that supports aquatic life during the wet-season, but the aquatic life is not seen during the stream delineation because the inspection occurred during the dry season? This section states a requirement that water quality buffers are necessary along streams only. Streams are defined as any surface water that is not a wet weather conveyance, which is a rather broad definition. Further, the definition for water quality buffer includes ponds, wetlands, reservoirs or lakes, which may imply that buffers are required on waterbodies other than streams. We respectfully suggest that the permit provide greater clarification on the definition of a stream and clarify the buffer requirements for any other waterbodies (if any).

Response: Currently, the division generally determines which water courses are streams and which are wet weather conveyances. Our Environmental Field Office staff conducts determinations and reviews determinations provided by applicants, permittees, or other qualified professionals. However, recent changes to the TWQCA instructed the division to promulgate procedures for making such determinations and to develop a certification program so that outside professionals can make determinations subject to division review.

52. **Comment (4.2.5.1) –** The proposed water quality buffer, based on the size of the drainage area would require a 60 foot buffer on many additional streams. Sites with limited access, steep slopes etc. may be forced to disturb additional area in order to comply with the permit requirement. In many areas in northeast Tennessee, the topography will not support water quality buffers of this width and would result in properties that would be considered "undevelopable".

Response: We interpret this comment to state that additional areas outside of the water quality buffer may have to be disturbed in order to provide the full buffer width. This may be the case for some proposed developments due natural site conditions and limitations. Every attempt should be made for development and redevelopment activities not to take place within the minimum water quality buffer zone. However, we understand that in some situations, minor encroachments may be practicably unavoidable. Therefore, if the

minimum buffer widths as defined above cannot be fully accomplished on-site, the MS4 must develop and apply criteria for determining the circumstances under which alternative buffer widths will be available.

53. **Comment (4.2.5.1) –** Details of the width of the buffers should be included in the definition section, in order to alleviate any mistakes or misinterpretation of this permit requirement.

Response: Details of the width of the buffers are included in the definition section of the final permit.

54. **Comment (4.2.5.1) –** A proposed post-construction buffer is only limited to streams, but is more broadly applied in the definition of water quality buffer in the Definition section of the permit. It seems appropriate to make it clear in this section that the water quality buffer also applies to rivers, ponds, lakes, springs, and wetlands. Buffer requirements should be explained clearly in the body of the permit, not in the definitions.

Response: Buffer requirements are described in the third paragraph of section 4.2.5.1 - Permit requirements: "*Develop and implement a set of requirements to establish, protect and maintain a permanent water quality buffer along all **streams** at new development and redevelopment projects*." In addition, part 7 of the permit (Definitions) is an enforceable part of the permit. Therefore, a location of any particular requirement within the body of this general permit may be the question of style, but has no impact on its enforceability. Nevertheless, in order to avoid any misinterpretation of the final permit, the above quoted sentence was changed to say: "*Develop and implement a set of requirements to establish, protect and maintain a permanent water quality buffer along all **waters of the state** at new development and redevelopment projects.*"

55. **Comment (4.2.5.1) –** A proposed 60 feet size of the post-construction buffer should be reduced to a more reasonable level. Furthermore, the permit should include consideration of topographic variations that could significantly reduce or eliminate the need for a buffer on some properties.

Response: The 60 and 30 feet minimum widths are reasonable respective to the size of water body and the minimum level of protection expected. The permit includes variance capability for sites to adjust widths if minimum requirements can't be met. The following language was added to the definition of a Water Quality Buffer: "*The MS4 must develop and apply criteria for determining the circumstances under which these averages will be available. A determination that standards cannot be met may not be based solely on the difficulty or cost associated with implementation.*"

56. **Comment (4.2.5.1) –** It is also necessary to include a requirement for stream restoration with new development and re-development, especially on 303(d) listed streams listed for siltation and loss of streamside habitat and bank stability. Several local jurisdictions have already included language in their ordinance that encourages restoration. There are many examples of new development that have met stream buffer requirements and left the actively eroding streambank and channel as is to continue to degrade even as the steam receives new stormwater discharges.

Response: We do not disagree that buffer restoration would be a huge step in further protection and recovery of impaired waterbodies. We do encourage buffer restoration, stream restoration and various mitigation projects not only within MS4 jurisdictions, but across the state. Similar requirements are often included in division's enforcement actions. However, for the purpose of this permit, we were unable to identify regulatory citation which would authorize such requirement.

57. **Comment (4.2.5.1) –** The definition of buffer should be revised to read: "[…] or the re-establishment of native vegetation bordering […]". In other words, *native* vegetation should be required when a buffer is being re-established.

Response: Suggested change was included in the final permit.

58. **Comment (4.2.5.1) –** For MS4 buffer enforcement, a single, standard buffer width may be more manageable.

Response: We agree that from enforcement and compliance standpoint, a single buffer width may be more manageable. However, the proposed approach, while not overly complicated, provides for more appropriate buffer widths based on the site's location within a watershed. A single buffer width would have to be based on a most critical location (i.e. would have to be a 60 feet average), which would place unnecessary burden on sites deemed to require a 30 foot buffer as a minimum requirement.

59. **Comment (4.2.5.1) –** Will post-construction buffer requirements apply to farm ponds?

Response: The Tennessee Water Quality Control Act, T.C.A. 69-3-103, defines waters of the state as following:

> *"Waters" means any and all water, public or private, on or beneath the surface of the ground, that are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership that do not combine or effect a junction with natural surface or underground waters"*

In our opinion, majority of farm ponds in Tennessee will fit the exception (above) provided in the Tennessee Water Quality Control Act. Consequently, post-construction buffer requirements would not apply to farm ponds.

60. **Comment (4.2.5.1) –** Several commenters expressed concern that any post-construction buffer requirements, particularly in areas with steep slopes, would consume valuable property from landowners with frontage on a waterbody draining an area in excess of 1 square mile. Furthermore, TDEC should provide guidance on how to approach mitigation policies where establishing buffers may not be possible or how the policy applies in areas of stream mitigation.

Response: The following variance language was added to the definition of a Water Quality Buffer: "*The MS4 must develop and apply criteria for determining the circumstances under which these averages will be available. A determination that standards cannot be met may not be based solely on the difficulty or cost associated with implementation.*"

61. **Comment (4.2.5.1) –** Exceptions for historical lots of records and residential lots should be addressed in the permit (for example, is a buffer required for a residential lot building permit where the lot was platted prior to the phase II NPDES permit issuance date?).

Response: There is no specific exclusion for previously platted lots. However, the following variance language added to the definition of a Water Quality Buffer should provide a mechanism for MS4s to address such exclusions on a case-by-case basis: "*The MS4 must develop and apply criteria for determining the*

circumstances under which these averages will be available. A determination that standards cannot be met may not be based solely on the difficulty or cost associated with implementation."

62. **Comment (4.2.5.1) –** In the electronic copy of the permit, the term water quality buffer presented in section 4.2.5.1 does not show in the typical blue color as a hyperlink, though it is hyperlinked. Considering that the new definition of water quality buffer is only to be found in the definition section, we think the link to the definition should be highlighted.

Response: The internal cross-reference was re-formatted to resemble a typical hyperlink.

63. **Comment (4.2.5.2) –** Local stormwater ordinances have requirements for managing water volume for flood control and to reduce water volume and speed in the receiving stream to reduce scour and erosion that is the cause of much siltation and in-stream habitat loss. The permit needs to have language to set the standard that discharges from a developed or redeveloped site will mimic or not exceed the hydrology of the site in its natural condition both in terms of water volume, discharge rate, frequency, and duration. Language is in the MS4 Permit Improvement Guide that EPA's distributed in April from the DC office. We understand from talking to Robby Karesh that language covering this will be added to the revision of this draft. The commenter proposed the following language after first sentence in the section's (4.2.5.2) first paragraph:

> *"The MS4 must require that the stormwater discharges from new development and redevelopment sites be managed such that post-development hydrology mimics or does not exceed the pre-development hydrology of the site in its natural condition in terms of both the discharge rate, volume, frequency and duration for all rainfall events up to the 500-year storm."*

Response: The language quoted in the above comment is not associated with the reduction standard we chose to implement in this permit. The quoted language was in respect to the hydrologic analysis standard, which was on the list of options we chose from (p 51, 5.2). The following sentence was added in the first paragraph of sub-section 4.2.5.2:

> *"The permittee must require that stormwater discharges from new development and redevelopment sites be managed such that post-development hydrology does not exceed the pre-development hydrology at the site, in accordance with the performance standards contained in this section. "*

64. **Comment (4.2.5.2) –** Second paragraph of 4.2.5.2.1 explains limitations to the application of runoff reduction measures (green infrastructure), and states, in part: "*Where a potential for introducing pollutants into the groundwater exists, unless pretreatment is provided […]*" This presents itself as a contradiction to a statement in section 4.2.5.2 on the previous page: "*The MS4 must implement and enforce permanent stormwater controls that are comprised of runoff reduction and pollutant removal. Runoff reduction is the preferred control practice as it can achieve both volume control and pollutant removal*." It is unclear from these two sentences what level of pollutant removal is acceptable (or desirable), as opposed to presenting itself as a groundwater contamination issue with related MS4 liability. TDEC should provide guidance to MS4s what level of pollutants is acceptable for groundwater infiltration.

Response: Runoff Reduction practices are expected to successfully treat typical concentrations of pollutants found in stormwater runoff from various land use activities (e.g. http://des.nh.gov/organization/divisions/water/stormwater/documents/wd-08-20a_apxd.pdf) such that either

ground or surface water will not be impacted. Some land use activities, such as industrial facilities or an activity identified by the MS4 as a Hot Spot, have the potential for contributing pollutants in excess of those typically found in stormwater. TMSP sites would be expected to implement management practices necessary to meet TMSP stormwater quality requirements, prior to utilizing runoff reduction practices. Stormwater runoff quality from Hot Spot activities would be evaluated on a case by case basis, based on typical pollutant concentrations for similar land use activities.

65. **Comment (4.2.5.2) –** Section 4.2.5.2 – Rainfall reduction surrounds the option for an MS4 to develop "incentive standards" for redeveloped sites. New development should be completely ineligible for any exemptions as it appears to be in this draft. Since the land for new development has no pre-existing limitations, permanent stormwater controls must be incorporated into the site design. There is no excuse for new development to not comply with this component of the permit. If the site is not suitable for stormwater controls, it should not be developed. This is particularly true for the presence of sinkholes or other karst features which have caused major problems for developers. These sites should not be allowed to be developed if they cannot conform to the rules.

The proposed redevelopment "incentive standards" has up to 50% reduction in the amount of runoff volume that needs to be managed and not released. While the percent reduction was proposed by TDEC, the concept in the permit comes from the MS4 Permit Improvement Guide. This reduction is too high and essentially has the potential to allow a significant amount of unmanaged runoff. Such allowance for re-development in the runoff reduction requirement needs to be much stricter. It should not be allowed on 303(d) streams and must require analysis that the runoff will not increase pollutant load and/or change hydrological conditions set to some amount. It seems the section on Pollutant Removal might integrate with this "incentive standard" such that what volume is allowed to runoff has to meet a treatment standard. While there is clearly a public benefit in redeveloping sites rather than converting farms or forests, there are other programs designed to encourage such development. If the designers have to figure out how to deal with 90% of the stormwater standard, which will be potentially contaminated because of prior use of the site, why allow them to release 10%, again recognizing there will be contaminated run-off for all rain events over 1" or the 95% standard? Again, there are lessons from the recent flooding experienced in middle-Tennessee.

Response: Exemptions and incentives are the same for new development and redevelopment. A prohibition on new development at all sites where runoff reduction is not feasible or is partially feasible has no merit and lacks regulatory basis. The proposed tiered approach for performance standards and corresponding incentives are reasonable, manageable, and in accordance with EPA's recommendations.

66. **Comment (4.2.5.2) –** What is the meaning of "*must*" in "*The first inch of rainfall must be 100% managed with no discharge to surface waters*", found in the section 4.2.5.2? Does this mean any run-off detected within that limit is a violation and is subject to some kind of enforcement action? The permit needs to specifically note non-compliance with such requirements is a permit violation subject to enforcement.

Response: The meaning of word "*must*" in this paragraph is similar to the meaning of the same word in other occurrences within this permit. All requirements of this permit, including this one, are fully enforceable. We do not see a need to include a definition for the word "*must*", nor explicitly and specifically point out noncompliance with sub-section 4.2.5.2 would constitute a violation of the permit more so than any other requirement in the general permit.

67. **Comment (4.2.5.2.1) –** Paragraph 1 in the section 4.2.5.2 – Runoff reduction should be changed to use EPA's recommended 95 percentile performance standard versus 1" rain.

Response: EPA's MS4 Improvement Guide offers several choices for site performance standards. These choices are outlined in section 5.2 of the guide. Volume of rainfall equivalent to a 1 inch rainfall was one of the choices, and was selected and implemented in this permit.

68. **Comment (4.2.5.2.1) –** Use of term "*discharge*" in context of runoff reduction requirements may be interpreted as "*discharge of pollutants*", which may go against the intention of reducing the *volume* of runoff. Using such interpretation, the runoff reduction requirement can be interpreted to mean a requirement that only treated runoff may leave a site rather than implying a volumetric limit on the runoff.

Response: The definition of discharge, found in part 10 of the permit, states: "*Discharge, when used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR §122.2*." The commenter is correct to point out a discrepancy between this definition and the second sentence in paragraph 4.2.5.2.1, which states: "*This first inch of rainfall must be 100% managed with no discharge to surface waters*." In order to avoid any confusion regarding the intent, the sentence was changed as following: "*This first inch of rainfall must be 100% managed with no storm water runoff being discharged to surface waters*."

69. **Comment (4.2.5.2.1) –** Where karst topography has been identified as a major topographic feature of the area, the MS4 should be wholly exempted from the runoff reduction requirements. Many communities in TN rely at least partially, if not wholly, on sinkholes to provide drainage. Increasing the volume of runoff into sinkholes can create numerous problems, including ground stability in the surrounding area. Therefore, we suggest the following clarifying language:

> *"Limitations to the application of runoff reduction requirements, include, but are not limited to:*
> *- Where a potential for introducing pollutants into the groundwater exists, unless pretreatment is provided;*
> *- Where pre-existing soil contamination is present in areas subject to contact with infiltrated runoff.*
>
> *Where the presence of sinkholes and karst features are known to exist in an MS4, that portion of the MS4 is exempt from applying the runoff reduction requirements."*

Response: The partial goal of the runoff reduction requirement is to reduce, not increase, the volume of storm water runoff prior to its discharge point, whether to a stream or sinkhole. Presence of sinkholes or other karst features have been identified as limitations to the application of runoff reduction requirements to prevent their use as part of the management practice due to related stability and ground water concerns.

70. **Comment (4.2.5.2.1) –** TDEC should provide guidance and the BMP manual of options on how to obtain the first 1 inch requirement of every rainfall event to be held onsite.

Response: A number of reference documents and resources is readily available. For example, EPA's publication "Sustainable Design and Green Building Toolkit", dated June 2010 (EPA904B10001) can be found at: www.epa.gov/region4/recycle/green-building-toolkit.pdf. It provides an assessment tool, resource guide and action plan for communities that wish to save resources by promoting sustainable building practices. Other resources found on the web include, but are not limited to the following: California

Stormwater Best Management Practice Handbook for New Development and Redevelopment (www.cabmphandbooks.com/), Georgia Stormwater Management Manual (www.georgiastormwater.com/), 2004 Connecticut Stormwater Quality Manual (www.ct.gov/dep/cwp/view.asp?a=2721&q=325704&depNav_GID=1654), Guidance Manual for On-Site Stormwater Quality Control Measures (www.sacstormwater.org/ConstructionandNewDevelopment/ConstructionandNewDevelopment.html), Urban Small Sites Best Management Practices Manual (www.metrocouncil.org/environment/Watershed/bmp/manual.htm), New York State Stormwater Management Design Manual (www.dec.ny.gov/chemical/29072.html), etc.

71. **Comment (4.2.5.2.1) –** Downstream analysis as a performance standard should be added to paragraph 4.2.5.2.1 (see "The Ten-Percent Rule" in the Georgia Stormwater Manual, section 2.1.9.2).

Response: Storm water management for the purposes of controlling or minimizing overbank flood protection and extreme flood protection is beyond the scope of this permit.

72. **Comment (4.2.5.2.1) –** A clarification of terms *redevelopment, brownfield redevelopment, high density*, etc. used in paragraph 4.2.5.2.1 should be added to the permit. The underlying soils should be taken into consideration. It may be unrealistic to meet this criterion in areas with type C or D soils. Changes to the impervious area of the site should be considered in the definition for the term *redevelopment*.

Response: Definitions of redevelopment and brownfield were added to part 7 of the final permit:

> *"**Redevelopment** means the alteration of developed land that disturbs one acre or more, or less than an acre if part of a larger common plan of development, and increases the site or building impervious footprint, or offers a new opportunity for stormwater controls. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse stormwater quality impacts."*
>
> *"**Brownfield** means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."*

73. **Comment (4.2.5.2.1) –** Paragraph 4.2.5.2.1 – Runoff reduction states, in part: "*Site design standards for all new and redevelopment require, in combination or alone, management measures that are designed, built and maintained to infiltrate, evapotranspire, harvest and/or use, at a minimum, the first inch of every rainfall event preceded by 72 hours of no measurable precipitation. This first inch of rainfall must be 100% managed with no discharge to surface waters*." It goes on to describe limitations to the application of runoff reduction requirements. Do these limitations allow for at least a portion of that first inch to be treated if 100% management cannot be achieved? Who has a final say as to which percentage is appropriate for a site? Are there minimum requirements to be used in making a decision on adequacy of claimed limitations?

Response: Section 4.2.5.2 in the permit addresses concerns presented in the above comment: "*If runoff reduction and/or pollutant removal cannot be fully accomplished on-site per 4.2.5.2.1 and 4.2.5.2.2, then the MS4 may propose off-site mitigation and/or payment into a fund for public stormwater projects. The MS4 must develop and apply criteria for determining the circumstances under which these alternatives will be available.*"

74. **Comment (4.2.5.2.1) –** Paragraph 4.2.5.2.1 might be more beneficial if it referenced the listed incentive categories as "*possible/suggested*", so MS4s could submit/accept other locale-specific categories for approval (while maintaining the 50% runoff reduction cap). How close can the presence of sinkholes or karst features be to the site in order for the development to use this as a limitation from the criteria? Should the presence be within x-amount of feet? Is it site specific? Watershed specific? Regionally specific? How is the pre-development infiltrative capacity of soils determined for redevelopment or infill?

Response: The proposed incentive list was developed by EPA and adopted from the MS4 Permit Improvement Guide and will be unchanged in the final permit. Limitation of the application of runoff requirements where karst features are present on a site must be done on case-by-case basis, and typically based on geotechnical analysis.

75. **Comment (4.2.5.2.1) –** Was stormwater management requirement listed in Paragraph 4.2.5.2.1 – Runoff reduction intended to apply to an entire site, or only for impervious areas at the site? Should different runoff coefficient at different portions of the site be taken into consideration for the "*100% management*" requirement?

Response: Only stormwater runoff generated by impervious areas is expected to be managed on new development or redevelopment sites.

76. **Comment (4.2.5.2.1) –** The runoff reduction requirement will be difficult to attain in many areas of northeast Tennessee, where clay soils, restrictive layers, high water tables, karst features and steep topography often do not lend themselves to effective use of runoff reduction BMPs. Further, the requirement to control the first inch of rainfall with no discharge may be more stringent than runoff conditions on the undeveloped site. In short, we believe that this requirement will be impractical for many site developments in northeast Tennessee. We have further concerns that the permit strongly implies that the use of lot level runoff reduction controls (e.g., rain barrels, rain gardens for individual lots, etc.) is necessary. Maintenance and proper use of such controls will be difficult for a MS4 to inspect/enforce, especially in residential subdivisions.

Although the draft permit identifies limitations to the application of the runoff reduction requirement, we request that TDEC clarify the conditions in which a site may be developed using the 80% pollutant removal/mitigation/in-lieu options so that MS4s can be certain that they remain in compliance. We also request that these conditions should consider the pre-development hydrologic balance before creating a rule-of-thumb.

Response: This permit provides for a tiered approach of stormwater management: runoff reduction, pollutant removal and options for off-site mitigation and payment into a public stormwater fund. Paragraph 4.2.5.2.2 in the final permit was modified to say: "*For projects that cannot meet 100% of the runoff reduction requirement unless subject to the incentive standards, the remainder of the stipulated amount of rainfall must be treated prior to discharge with a technology reasonably expected to remove 80% total suspended solids (TSS) The treatment technology must be designed, installed and maintained to continue to meet this performance standard."*

77. **Comment (4.2.5.2.1) –** If the runoff reduction standard remains in the small MS4 permit, we respectfully propose that the requirement be modified to require no release of the difference between the direct runoff that would occur for 1-inch of rainfall during the pre-developed condition versus the runoff that would occur for 1-inch of rainfall during the post developed condition.

Response: Several parts of the permit address pre and post-construction conditions at the site. For example, section 4.2.5.2 says, in part: *"The permittee must require that stormwater discharges from new development and redevelopment sites be managed such that post-development hydrology does not exceed the pre-development hydrology at the site, in accordance with the performance standards contained in this section."* Third paragraph in 4.2.5.2.1 says: "*Pre-development infiltrative capacity of soils at the site must be taken into account in selection of runoff reduction management measures."* Therefore, MS4s are expected to account for local site conditions when reviewing and approving new and redevelopment sites.

78. **Comment (4.2.5.2.2) –** The start of paragraph on off-site mitigation should be modified to include the following: "*For projects that cannot meet 100% of the runoff reduction requirements, the MS4 may allow runoff reduction measures to be implemented at another location within the same USGS 12-digit hydrologic unit code (HUC) as the original project*."

Response: The suggested language was added to the final permit.

79. **Comment (4.2.5.2.2) –** The commenter suggested that 80% pollutant removal described in the Section 4.2.5.2.2 should be clarified that it refers to specific types of BMPs and not the overall system of BMPs.

Response: The intent of the 80% removal efficiency relates to an overall removal of TSS from stormwater runoff. That can be achieved by using one or more BMPs in a treatment train at the site.

80. Comment (4.2.5.2.2) – The commenters suggested use of turbidity instead of TSS as a performance standard. Furthermore, In section 4.2.5.2.2 - Pollutant Removal, qualification for treatment "*with a technology documented to remove 80% total suspended solids (TSS)*" is significant. It raises the question of what documentation is sufficient, and it points to total suspended solids (TSS) as the solids parameter of choice. The commenters requested the State consider specifying what level of documentation would be needed to verify a treatment removal efficiency and what is the targeted range of particle sizes within the TSS sample.

The State may also want to consider selecting a parameter such as suspended sediment concentration (SSC), which some argue would return values more representative of all the solids in a stormwater flow. At the same time, we understand that it is generally a more difficult and expensive test to perform.

In addition, suspended sediment concentration (SSC) method should be considered instead of TSS method. If percent TSS removal is retained in the final permit, particle size and laboratory testing method should be defined to create consistency and assure credible performance of BMPs.

Response: There are established protocols such as and published by the Technical Acceptance Reciprocity Partnership and New Jersey Corporation for Advanced Technology as well as performance criteria for removal of TSS. Since these protocols, based on the TSS removal, are widely used and accepted, we don't believe that it would be appropriate to require a performance standard based on turbidity levels.

The particle size should be specified by the MS4 based on geologic conditions within their jurisdiction. The phrase "*documented to remove 80 %*" has been replaced with "*reasonably expected to remove*."

81. **Comment (4.2.5.2.2) –** Does the 80% pollutant removal described in the section 4.2.5.2.2 - Pollutant Removal apply in addition to the Runoff Reduction approach or only for redevelopment sites? Or possibly is this standard to apply as a MS4 stormwater management option instead of the Runoff Reduction approach in the section above? It is unclear. This appears to be the first flush treatment standard that is common in current stormwater regulation to remove 80% of the total suspended solids. However, EPA's letter to TDEC of May 14 after reviewing the draft, recommends this performance standard be changed to one that conforms to the new EPA turbidity numeric effluent standard.

Response: See response to the comment number 80.

82. **Comment (4.2.5.2.3) –** TDEC needs to provide more clarification about the opportunity to mitigate in the same USGS 12-digit HUC. HUC 12 level watersheds can cross several jurisdictional boundaries. Mitigation should be contained within the jurisdictional boundary for which the original work requiring mitigation was completed.

Response: We agree that HUC 12 watersheds and MS4 jurisdictional boundaries rarely overlap. We encourage mitigation within jurisdictional boundaries whenever possible. However, jurisdictional boundaries are artificial and often change, while HUC 12 watersheds are natural, and practically never change. Furthermore, TDEC's interest in mitigation extends beyond municipal boundaries, with an ultimate goal of protecting and restoring waterbodies in each watershed. Therefore, TDEC's preferred approach is for mitigation within a watershed, but not limited to MS4's jurisdictional boundaries.

83. **Comment (4.2.5.2.3) –** Even though MS4s have the option of allowing off-site mitigation, a consistent multiplier of 3 times of water not managed for retrofit and re-development sites should replace the proposed 1.5 in the draft permit. For new development, this multiplier should be up to 5 times to allow for management of fund including planning and administration, acquisition, design, construction and perpetual stewardship. If increasing this ratio is not acceptable, the final permit should state that "*[…] must be a minimum of 1.5 times the amount […]*" Furthermore, TDEC should provide guidance for standardizing mitigation projects.

Response: A sentence in this paragraph was edited to say: "*Off-site mitigation must be a minimum of 1.5 times the amount of water not managed on site.*"

84. **Comment (4.2.5.2.3) –** The following statement needs clarification: "*Off-site mitigation must be for 1.5 times the amount of water not managed on site*." This statement implies that stormwater treatment can be split over onsite treatment and off-site mitigation. Is this interpretation correct?

Response: Stormwater treatment can be split only if less than 100% of runoff can be managed or treated on site.

85. **Comment (4.2.5.2.3) –** Paragraph 4.2.5.2.3 - Off-site mitigation (an *option* for MS4s in lieu of on-site reduction controls) needs to be tightened to have the desired impact of mitigating impacts where complete on-site management is not possible. First, it is not enough to require off-site mitigation be in the same HUC 12. Preference must be granted to off-site mitigation upstream of the project in the same HUC 12. Many HUC 12 streams have multiple branches so the best form of mitigation is to have the compensatory mitigation occur on

the same branch, preferably *upstream*. If a suitable site is not available, the next best choice would be another site within the same HUC 12, and the third and least desirable site would be outside the HUC 12. In order to clearly indicate this preference, escalating mitigation requirements would be appropriate. For example, if on the same branch 1.5 times the unmanaged water, on a different branch 2 times the unmanaged water, and if outside the HUC 12, but within the same HUC 10, 2.5 times the unmanaged water.

What constitutes an acceptable mitigation project is unclear. Since the permit refers to mitigating for "the amount of water not managed on site," this suggests a quantitative determination that may limit the kind of mitigation projects acceptable. Presumably, since this mitigation requirement is tied to the failure to capture the first 1" of rain, mitigation alternatives would need to be tied to increasing the management of that same amount of rainfall on a site where it is currently not managed. Mitigation projects such as streambank stabilization or restoration would therefore not be eligible, regardless of their contribution to water quality. The criteria for acceptable mitigation must be clearly stated. The MS4 Permit Improvement Guide on pages 56-57 provide some language that tightens and specifies the conditions for approving and compensating for off-site mitigation. These need to be incorporated into the draft permit.

Response: Off-site mitigation options should be defined and implemented based on site-specific conditions at each permitted municipality.

86. **Comment (4.2.5.2.3) –** Paragraph 4.2.5.2.3 - Off-site mitigation states, in part (emphasis added): "*The MS4 <u>may</u> allow […] the MS4 <u>shall</u> identify priority areas within the watershed in which mitigation projects can be completed. […] the MS4 <u>must</u> create an inventory […]*" Does this mean that an MS4 shall identify and an MS4 must create an inventory *only* if it chooses to allow off-site mitigation?

Response: Your interpretation of this paragraph is correct. MS4s have an option, but are not required to use off-site mitigation (or payment in a public stormwater project fund) as a method of stormwater management.

87. **Comment (4.2.5.2.3) –** Language requiring assurance of a perpetual easement and stewardship for all mitigation projects. A responsible third party or dedicated resources within the MS4 must be in place to properly manage mitigation sites. These requirements will help ensure that mitigation sites function in perpetuity.

Response: The first sentence of sub-section 4.2.5.5 was modified to read: "*All stormwater BMPs, <u>including BMPs used at mitigation projects</u>, installed and implemented to meet the performance standards of sub-section 4.2.5.2 must be maintained in perpetuity.*"

88. **Comment (4.2.5.2.3) –** The last sentence of paragraph 4.2.5.2.3 - Off-site mitigation states: "*Mitigation can be used for retrofit or redevelopment projects, but should be avoided in areas of new development.*" If mitigation can provide benefits above what is required/would otherwise be done on a "new development" project, should it be precluded?

Response: The above quoted sentence does not preclude use of mitigation as an alternative to on-site stormwater management.

89. **Comment (4.2.5.2.4) –** Paragraph 4.2.5.2.4 (describes an *option* for MS4s for payment into a public stormwater fund in lieu of on-site reduction controls) should be deleted from the final permit.

Response: This section of the permit was specifically written as an option for MS4s. The mitigation option may be a significant and valuable tool for some MS4, but is not required for all permittees.

90. **Comment (4.2.5.2.4) –** The following sentence should be added to paragraph 4.2.5.2.4: "*All such Stormwater mitigation project funds shall be used to perform projects that generally benefit stormwater runoff quality by reducing the volume of stormwater runoff.*"

Response: The suggested language will be added to the final permit.

91. **Comment (4.2.5.2.4) –** Public stormwater fund, mentioned in paragraph 4.2.5.2.4, should be termed *Stormwater Mitigation Fund*. A requirement should be added that monies from that fund can be dedicated to the stormwater program and projects. Projects could be defined as part of the inventory per 4.2.5.2.3.

It is unclear in paragraph 4.2.5.2.4 - Payment into Public Stormwater Project Fund as to either the intent of this provision in terms of the project as well as the anticipated use of the funds. The permit refers to setting the amount of the payment at 1.5 times the cost of on-site reduction controls. Does this include the value of the land used for the controls? If not, it is feasible it would be cheaper for the developer to make a payment into the fund and maximize the use of the land. What are the criteria of "*cannot meet 100% of the runoff reduction and pollutant removal standards*"? It is difficult to envision a project for which meeting the standards would be impossible, but certainly possible to imagine a project where meeting the standards would be inconvenient and expensive. If the criterion is cost, many, if not most, projects will opt to pay into the fund negating the intent of the MS4 permit in the first place.

The entire purpose of this fund is undefined. The permit contains no guidelines for the use of the funds. Can these funds be used to pay for the MS4 program, including staff salaries and program expenses? Must the funds be used for mitigation alone? As written, this fund only creates an option for developers to buy their way out of installing stormwater controls. Without much more clarity to ensure such payments would be extremely rare and solely dedicated to improving stormwater quality and reducing stormwater velocity, this section should be stricken entirely.

Response: The permit refers to this as a public stormwater project fund. The permit intends for these monies to be used for projects as opposed to programmatic elements.

92. **Comment (4.2.5.4) –** Requiring a pre-application concept plan described in section 4.2.5.4. would place an undue burden both on the MS4 and developers. This requirement does not appear to add any useful steps to the process other than create a burdensome and costly additional step for the development community and the MS4. Work at construction sites cannot proceed without a disturbance permit anyway, so this requirement is unnecessary and duplicative. This requirement should be removed.

Response: The basis for this requirement was to ensure that proposed development plans describe how the performance standards of paragraphs 4.2.5.2 and 4.2.5.5 will be met. To minimize the potential for duplicate actions, we have removed the pre-application concept plan submittal requirement and modified paragraph 4.2.5.4 as follows:

a. procedures for site plan review and approval that include inter-departmental consultations, and a re-submittal process when an owner requests changes to an approved stormwater management plan;
b. the site plan review must specifically address how the project applicant meets the performance standards in paragraph 4.2.5.2 and how the project will ensure long-term maintenance as required in paragraph 4.2.5.5.
c. a verification process to ensure that permanent stormwater BMPs have been installed per design specifications, that includes enforceable procedures for bringing noncompliant projects into compliance.

93. **Comment (4.2.5.4) –** TDEC should incorporate language to encourage coordination with local slope protection planning where applicable, or encourage language for the formation of slope protection policies.

Response: We do encourage coordination with local slope protection planning and establishment of slope protection standards.

94. **Comment (4.2.5.5) –** Requiring MS4s to document appropriate maintenance and/or repair of BMPs have been completed, as described in section 4.2.5.5, will discourage use of green infrastructure. At the same time, it will place unnecessary burden on public works departments with extra work and inspection responsibilities.

Response: We do not think that maintaining basic documentation regarding maintenance and/or repair of BMPs will discourage use of green infrastructure, nor place an unreasonable burden on public works departments.

95. **Comment (4.2.5.5) –** A requirement for perpetual maintenance of the post-construction buffer would place an unnecessary financial burden on landowners.

Response: The permit does require for stormwater BMPs installed and implemented to meet the performance standards of sub-section 4.2.5.2 to be maintained in perpetuity. However, post-construction buffers are not considered as one of BMPs referenced in sub-section 4.2.5.2.

96. **Comment (4.2.5.5) –** Some BMP maintenance activities require substantial resource investments. If BMPs are privately owned, requiring a private owner to complete large repairs within 30 days may be unreasonable. Substantial repairs will require more than 30 days to complete. Therefore we recommend the following revision: "*The BMP owner must ~~correct the deficiency~~ initiate corrective action within 30 days of the notice*."

Response: The suggested revision was incorporated in the final permit.

97. **Comment (4.2.5.5) –** Since 2008, the cities that comprise the Stormwater Planning Group have attempted to include the execution of maintenance covenants (i.e., contractual agreements) for maintenance of water quality pollutant removal BMPs. Also, each jurisdiction's stormwater management ordinance requires inspection and maintenance by BMP owner. We have found that in many instances the signatory requirements for maintenance agreements have been extremely difficult to comply with, from both legal (e.g., easement documentation) and financial (e.g., mortgage lender) standpoints. In several instances, this has caused significant delay and difficulty with the site development process. At least one City attorney has reviewed the maintenance covenant requirement and has indicated that it is not necessary if maintenance by the BMP

owner is required by City ordinance and that ordinance can be enforced. Therefore, we suggest eliminating the requirement to obtain a maintenance agreement for BMPs and simply requiring that maintenance by BMP owners be required either by regulation and enforcement or contractual agreement (whichever is most appropriate for the jurisdiction).

Response: The second sentence in the first paragraph of section 4.2.5.5 was changed to read: "*Verification maintenance by BMP owners must be required either by the municipal ordinance regulation and enforcement or contractual agreement (whichever is most appropriate for the jurisdiction) or must include one or more of the following as applicable: […]*"

98. **Comment (4.2.5.5) –** A commenter expressed a concern about the required stormwater management agreements. A stormwater management agreement/conveyance make good sense if one is dealing with residential properties/subdivisions. However, with other uses such as businesses, the City would rather issue a water quality BMP permit; like a grease or backflow permit. All maintenance and inspection would take place as specified per our new permit requirements. Allowing MS4's to permit these facilities would give added flexibility to our stormwater program while meeting the goals of our new permit. Moreover, I strongly believe business would be more receptive to a permit than attaching such regulations to their deed. Record keeping and inspections would be more effective and efficient within the framework of a permit system.

Response: Paragraph d) in section 4.2.5.5 was changed to read: "*d. Any other legally enforceable agreement that assigns permanent responsibility for maintenance of runoff reduction and pollutant reduction stormwater BMPs, including, but not limited to a BMP permit tracking system developed by the MS4 authority*."

99. **Comment (4.2.5.5) –** The following paragraph should be added to sub-section 4.2.5.5 – BMP Maintenance:

> "*By the end of Permit Year 1, the permittee shall have upgraded its GIS-based databases for all public or privately installed post-construction Stormwater treatment devices (BMPs). Within 6 months of permit reissuance, the permittee shall submit a plan to the agency that details the activities the permittee will perform to verify BMPs are being properly maintained. If written comments are not received within 30 days from TDEC receipt of the proposed plan, the permittee shall proceed as proposed, throughout the remainder of the permit cycle. The plan shall incorporate an MS4-conducted inspection component as well as a maintenance records review component. Metro shall initiate the BMP inspection and maintenance verification program so that all program goals are met by the end of Permit Year 5. Inspection frequency and prioritization, database and inspection documentation, non-compliance enforcement procedures, public education activities, and any suggested monitoring activities. After receiving approval of the BMP oversight program, the permittee will be expected to complete the program by the end of Permit Year 5.*"

Response: We encourage electronic databases, but it may be premature to require small MS4s to develop and maintain an electronic GIS database during this permit cycle. Most of the elements contained in the proposed language are already included in the final permit. We do not think it's necessary to repeat these requirements by including the paragraph above.

100. **Comment (4.2.5.6) –** Section 4.2.5.6 – Inventory and Tracking of Management Practices contains the following requirement: "*Tracking of BMPs shall begin during the plan review and approval process with a database or electronic geographic information system (GIS)*." Placing this information in a GIS system at the

review stage will potentially lead to BMP's which are never constructed remaining in the system or being in a system for some time prior to any actual BMP being on the ground. Recommend revising this to begin at the onset of construction. This will allow the BMP's to be in the system labeled as under construction and then when final approval is granted the BMP can be changed to a fully operating BMP. Requiring the use of a database or GIS system seems rather burdensome to the small MS4s, especially since this could be accomplished with the use of a paper map. This requirement should be changed to a recommendation. Another option would be for tracking to begin either when a grading permit is issued or immediately after construction is completed. This will allow BMPs to be correctly identified and located once fully operational.

Response: The second sentence in this paragraph was changed to read: "*The division recommends for tracking of BMPs to begin during the plan review and approval process with a database or electronic geographic information system (GIS).*"

101. **Comment (4.2.5.6) –** This section of the permit states that the inventory and tracking system must be in place within 180 days from issuance of the permit. However, new MS4s have a full 48 months to develop the permanent stormwater management programs (see Item 4.1.1). We suggest the following:

> *"Existing MS4s shall develop a system, or modify an existing system as necessary, within 180 days of issuance of this permit. New MS4s shall develop a system, or modify an existing system as necessary, within 48 months of issuance of this permit*."

Response: Associating a compliance deadline with permit issuance date, instead of date when permit coverage was obtained, could present a compliance difficulty for any municipality obtaining permit coverage later in the permit cycle (e.g., 47 months after the permit issuance date).

102. **Comment (4.2.5.7) –** The following sentence should be added to the sub-section 4.2.5.7 – Owner/Operator Inspections: "*The MS4 may require submittal of this documentation.*" That way, requirement would apply to the entire sub-section, not only item a).

Response: The sentence in question was removed from item a.), and is included at the end of this sub-section. Therefore, it applies to all items in sub-section 4.2.5.7.

103. **Comment (4.2.5.7) –** The following paragraph should be added to the sub-section 4.2.5.7 – Owner/Operator Inspections:

> *"4.2.5.7 Master Planning Activities*
>
> *The permittee shall define its master planning effort by investigating stormwater quality problems on a watershed approach that will ultimately lead to the development of watershed management plans (WMPs). WMPs shall list specific causes of water quality issues as well as a specific watershed management approach tailored to each specific watershed. Some of the following components that should be addressed in each WMP include:*
>
> *i. changes to laws, ordinances, rules, etc.*
> *ii. educating and involving the city council and planning and zoning boards;*
> *iii. design criteria for new development, including restrictions on impervious area; use of pervious paving material; source treatment, flow attenuation and infiltration*

devices; locating local and regional detention basins; provisions for recharge of groundwater; and restrictions for development in steeply sloped areas;

iv. changes to administrative procedures;

v. education of land owners/developers;

vi. facilitate public involvement activities aimed at addressing identified issues;

vii. consideration of regional detention/treatment facilities;

viii. prioritization/consideration of retrofitting existing detention facilities (especially Metro-owned properties);

ix. prioritization of stormwater, water, or sanitary sewer maintenance/rehabilitation projects based on watershed investigation findings; or

x. development of long-term water quality monitoring programs aimed at evaluating program effectiveness and overall water quality.

By the end of PY5 WMPs for the three largest and/or most critically impaired watersheds shall be developed."

Response: To a large degree, all components of the stormwater watershed plan presented above are already required in developing a Stormwater Management Program. Stormwater Management Program refers to a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system.

104. **Comment (4.2.5.7) –** Sub-section 4.2.5.7 – Owner/Operator Inspections states, in part: "*In order to ensure that all stormwater BMPs are operating correctly and are properly maintained, the MS4 shall, at a minimum, require owners or operators of stormwater management practices to […]*" A clarification of the term "all" in this sentence is required. Does "all" mean:

1. Every BMP in the MS4?
2. Every BMP from the permit forward?
3. Every BMP from the permit forward and any identified problem BMPs from prior to the permit?

The commenter recommended the permit apply those requirements to every BMP constructed from the permit issuance forward and for any identified problem BMPs from prior to permit issuance.

Response: The inspection requirements in question are a part of section "Permanent Stormwater Management in New Development and Redevelopment". Therefore, referenced BMPs are those installed with a purpose to provide permanent stormwater management.

105. **Comment (4.2.5.7) –** The following sentence in paragraph b, sub-section 4.2.5.7 – Owner / Operator Inspections "*Such inspections must be conducted under the supervision of a professional engineer or landscape architect*." should be changed to say: "*Such inspections should be conducted under the supervision of a professional engineer or landscape architect*." Another commenter suggested "*professional engineer or landscape architect*" be replaced with "*persons trained in stormwater management practices*." TDEC could offer such course in addition to Level I and II EPSC courses. If a requirement is maintained in the final permit, overseeing/enforcing on sites that do not hire Landscape Architects or Professional Engineers to inspect certain BMPs every 5 years (i.e. rain gardens, infiltration swales, etc.) will be unnecessarily burdensome to MS4s.

Response: Flexibility in choosing the personnel to conduct inspections is provided for routine inspections. Routine, annual inspections can be conducted by a person familiar with control measures implemented at a site. However, comprehensive inspections must be conducted by either a professional engineer or landscape architect. Considering that comprehensive inspections were to be performed once every five years, this is not considered unnecessarily burdensome to MS4s.

106. **Comment (4.2.5.7) –** Annual maintenance inspections of practices defined in Sub-section 4.2.5.7 – Owner/Operator Inspections are too lenient and would be ineffective. Quarterly inspections are feasible and would ensure practices are working efficiently and appropriately. Comprehensive inspections should be conducted annually.

Response: The proposed monitoring frequency is considered unnecessarily burdensome to MS4s.

107. **Comment (4.2.6) –** The following paragraphs depict some of the minimum requirements that should comprise the municipal maintenance programs and should be therefore added to Section 4.2.6 - Pollution Prevention/Good Housekeeping for Municipal Operations:

> *"4.2.6.1 Mapping Stormwater Infrastructure:*
>
> *The permittee shall continue to develop, update, and maintain a municipal storm sewer system GIS-based database. The MS4 database shall encompass areas of Davidson County within the permit coverage area owned or operated by the Metropolitan Government of Nashville and Davidson County. Maintenance shall require ongoing updates that capture any additions or changes that occur to the drainage infrastructure as a result of new development, significant redevelopment, Metro construction/maintenance projects, and/or newly created MS4 areas per Metro Water Services records on Combined Sewer System (CSS) separation projects. Updates to the stormwater drainage system shall include, at a minimum, collection of the following information:*
>
> *i. Location of inlets, outfalls, manholes, junction boxes, culverts, bridges channels, and stormwater structures such as BMPs;*
> *ii. Physical descriptions of the drainage structures including the material of construction and geometry; and*
> *iii. Observations of a presence of pollution (i.e. oil, grease, abnormal color, odor, etc.).*
>
> *The permittee shall strive to have the MS4 stormwater drainage database on an on-going basis. The permittee will be considered "up-to-date" if the GIS database is updated within 9*

months of MS4 drainage structure changes/additions are complete and turned over to the GIS technician.

4.2.6.2 Drainage Infrastructure Maintenance:

The permittee shall continue to perform maintenance on the existing MS4 drainage system on an ongoing basis that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. The permittee will be responsible for performing maintenance on the publicly owned or operated drainage system as determined by MWS. Maintenance of the stormwater drainage system shall be performed based on complaints received from the general public and any other routine inspections performed by MWS or other Metro agencies. Maintenance shall be performed in an effort to minimize current and future impacts to water quality. The permittee shall continue programs of routine catch basin cleaning on an ongoing basis. The permittee shall maintain records of the locations serviced, date of service, and volume of material removed so they can be tracked in subsequent annual reports. The permittee shall also consider, as part of the annual report submittal, analyzing the amount of maintenance work orders generated by public complaints or comments.

The permittee shall inspect and perform any necessary maintenance on the Dry Creek detention facility and any other Metro-operated regional detention/treatment facilities. Inspections shall, at a minimum, be performed once per quarter of each permit year. Maintenance shall be performed as determined necessary to ensure the detention facility is operating as originally designed.

4.2.6.3 Roadway Maintenance:

The permittee shall operate a program on an ongoing basis to effectively sweep streets within the Urban Services District (USD) or other designated areas with the goal of removing as much material as possible from the roadways. Within 3 months of permit reissuance, the permittee shall submit a plan to the agency that details the scope of the street sweeping program that will be operated by the MS4. If written comments are not received within 30 days from TDEC receipt of the proposed plan, the permittee shall proceed to operate the street sweeping program, as proposed, throughout the remainder of the permit cycle. The permittee shall track the miles of street swept and amount of material collected each year for submittal in the annual reports.

The permittee shall operate a de-icing program on an ongoing basis that minimizes impacts from surface water runoff. The permittee shall maintain its program for inspecting and managing storage areas to minimize loss of materials. The amount of deicing chemicals applied shall be tracked and reported in each subsequent annual report. In addition, any changes implemented for purpose of reducing impacts to surface water runoff shall also be documented in annual reports.

The permittee shall review its spill response program to ensure its effectiveness in reducing impacts to water quality. The permittee shall pursue agreements with other MS4 permittees to coordinate on spills that involve multiple jurisdictional boundaries. The permittee shall document spill response activities in each annual report.

The permittee shall review its road design criteria and construction requirements, particularly for sensitive areas such as areas adjacent to or within streams, wetlands and floodplains. By the end of PY1, the permittee shall develop a Standard Operating Procedure (SOP) that provides for special consideration of water quality issues for roadway design in sensitive areas (i.e. near streams, in floodplains, in highly impervious watersheds, etc.) Roadway design considerations shall include use of bottomless culverts or bridges over stream crossings, pervious pavement, infiltration ditches/swales, etc.

4.2.6.4 Solid Waste Management:

The permittee shall maintain the existing housekeeping programs as an ongoing basis that focus on preventing the accumulation of solid waste (litter, leaf, and brush) within the MS4 drainage system. Programs shall include providing opportunity to the general public to properly dispose of such waste and educating the general public on the proper disposal methods. The amount of materials collected shall be tracked and included in annual report submissions.

The permittee shall provide, for public use, facility(s) that can receive household hazardous waste. The facility shall be operated on an ongoing basis. The permittee shall provide data in the annual report such as the types of materials collected and the number of household drop-offs in the report period. The permittee shall document and report any public education materials performed specifically for household hazardous waste.

4.2.6.5 Pesticides, Herbicides, and Fertilizers:

The permittee shall, as a component of the above-mentioned Stormwater Management Plan, develop SWPPPs for all municipal-operated facilities that store, impound, or maintain vehicles or other riding equipment and/or otherwise store oils or other toxic materials.

The permittee shall also coordinate with the Tennessee Department of Agriculture to perform some type of education and/or training of all local professional licensed chemical applicators on proper application and storage practices to reduce impacts to stormwater runoff.

4.2.6.6 Promotion of In-stream Habitat Improvement:

As an effort to improve habitat within local streams, the permittee shall promote in-stream habitat improvement projects throughout jurisdictional boundaries. Promotion of in-stream habitat improvement projects could include, but not be limited to, coordinating with the Tennessee Stream Mitigation Program (TMSP) to locate and perform stream mitigation projects within the county, coordinating with the stormwater maintenance group to promote in-stream habitat improvement projects as a component of large maintenance projects involving streams, coordinating with the parks department to promote bank stabilization and other stream/wetland improvement projects, LID, etc.

4.2.6. Municipal Employee Training Program:

The permittee shall develop an municipal employ training component of the overall Stormwater Management Plan that implements routine water quality training for key municipal maintenance staff. The training program shall be designed to educate all municipal

maintenance departments on the importance of preventing impacts to stormwater runoff quality from maintenance activities. All maintenance departments should be trained at least once before the end of the permit cycle."

Response: Stormwater program components presented above applicable to Phase II municipalities are already required in developing a Stormwater Management Program. Stormwater Management Program refers to a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system.

108. **Comment (4.2.6) –** Section 4.2.6 - Pollution Prevention/Good Housekeeping for Municipal Operations appears to require all MS4 facilities, regardless of department, are to be participants in Pollution Prevention and Good Housekeeping components of the permit. Therefore, signature on the NOI should be required from all MS4 jurisdiction department heads. This will be beneficial to MS4 jurisdictions that operate under complicated structures with many departments under different branches of the government.

Response: We do not believe a signature from all MS4 jurisdiction department heads will ensure compliance with the permit. It would, however, present itself as an unnecessary paperwork burden.

109. **Comment (4.3) –** The draft permit, in sub-part 4.3 – Qualifying Tribe, State or Local Program states that under a QLP, the coverage under the state's General NPDES Construction General permit would not submit an NOI to the Water Pollution Control Division of TDEC. The NOI posted on TDEC's web site is one way the public is informed of new construction projects. We would recommend the QLP forward NOIs it issues to TDEC for posting on the TDEC web site in order to allow for adequate public notice and review. The commenter proposed to add as second to last sentence in paragraph: "*Once a month the QLP will forward a list of received NOIs to the Division for posting on the Division's web site.*"

Response: There are several methods being under consideration for notifying general public of all current construction activities. We have not decided what may be the most efficient and cost-effective approach. In addition, different methods may be used at different QLPs. The suggested approach will certainly be taken under consideration.

110. **Comment (4.4.3) –** Section 4.4.3 defines conditions under which the division may require updates to the Stormwater Management Program. Does this mean that individual MS4s can be singled out and required to change the Stormwater Management Program, or does it mean that all MS4s in the state would be required to change their programs to meet certain requirements? If individual programs can be ordered to change their program regardless of the cost to the MS4, is there any oversight of the "Division", if so by whom? Is there any appeal process for these Updates? Who is the Division? Can this be the decision of one person in the division? Who can certify that the required changes are equally and equitably done in similar circumstances state wide?

Response: *Division* means the Tennessee Department of Environment and Conservation, Division of Water Pollution Control. The division is "the NPDES permitting authority" pursuant to 40 CFR §122.32. The division may require change(s) to the stormwater management program for one municipality, or modify this general permit to expand such requirement to all MS4s.

111. **Comment (4.5) –** Procedures for site inspection and enforcement must be in place for MS4 inspectors to evaluate construction site compliance, and are required to be included in the Enforcement Response Plan

(ERP). The ERP must include specific enforcement steps to ensure construction sites are in compliance with the MS4's program.

Response: It is expected for the ERP to include MS4-specific details, such as explicit site inspection time intervals with a minimum inspection frequency, the minimum percentage of sites inspected over a specific timeframe and coordinating inspections to rain events. At this time, it is not necessary to prescribe such details within the MS4 permit as requirements may vary from one municipality to another, causing for either inadequate or wasteful allocation of resources.

112. **Comment (4.5) –** TDEC should provide additionally guidance in the development of the ERP document in the form of "boiler-plate" language that they have provided to satisfy the various MS4 ordinance requirements.

Response: We agree with this idea, and will coordinate development of a guidance document with representatives of MS4s.

113. **Comment (4.5.1) –** Paragraph c (Citations with Fines) in section 4.5.1. – Development of Enforcement Response Plan Procedures should be changed to say:.

> *"c. Citations with ~~Fines~~ Administrative Penalties – The ERP must indicate when the MS4 will assess monetary ~~fines~~ penalties, which may include civil and administrative penalties."*

Response: Suggested changes were incorporated in the final permit.

114. **Comment (4.5.2) –** The phrase "*that discharge to the MS4*" should be added to the first paragraph of the section 4.5.2 – NPDES Permits Referrals.

Response: The phrase was added and the paragraph now reads: "*For those construction projects or industrial facilities subject to the TNR100000 (the NPDES general permit for stormwater discharges from construction activity) or TNR050000 (the NPDES general permit for stormwater discharges from industrial activity), <u>that discharge to the MS4</u>, the MS4 permittee must […]*".

115. **Comment (4.5.2) –** The permit must require a more detailed enforcement plan. Specifically, section 4.5.2 – Development of Enforcement Response Plan should outline the need for enforcement actions to be progressive. There should be no more than 2 verbal warnings for violations before the respondent receives a written warning. Once a written warning has been issued, but violations persist, the next step (citations with fines) must be enforced. If violations persist, a stop work order must be issued. The MS4 needs the ability and the support from the state to be able to stop violations and resulting threats to water quality.

Response: Local MS4 should have flexibility in a decision-making process as to the implementation of their storm water management plans. The proposed language does not alter or compromise TDEC's and EPA's authority over any NPDES or Clean Water Act-related issues.

116. **Comment (4.5.2) –** The commenter opposes expanding the scope of the MS4's responsibilities into the realm of industrial stormwater runoff. The MS4 entity has a responsibility of public education and outreach, and we realize that the MS4 has the oversight of its storm sewer system, and thus an interest in preventing contamination of that system. For example, illicit discharges may originate at industrial facilities;

and the City has a responsibility to enforce the illicit discharge prohibition. However, we do not agree that the MS4 should have a program of education specifically toward industrial facilities.

The permit language does not clearly describe the MS4's responsibilities with respect to industrial facilities. In one or two places in the permit, and in two or three in the rationale sheet, language implies that the State intends that MS4s have in place a program to regulate industrial facility runoff. This is a significant responsibility, not present in the existing MS4 general permit.

To the extent that the State has the regulatory authority to impose such a requirement on the MS4s, we request that the MS4's responsibilities be presented clearly and that TDEC more fully and explicitly describe and discuss those responsibilities.

Response: The following statements in the draft MS4 materials may imply, or suggest, that the MS4 must have in place a program of oversight for industrial facilities.

Rationale, Part XIII.: *"Over the five-year permit term, a range of programs will be implemented and enhanced to minimize stormwater pollution discharges from existing and new residential, commercial, and industrial developments."*

Rationale, Part XV.: *"Permittees are required by the Phase I and Phase II regulations to include in their ordinance, or other regulatory mechanism, penalty provisions to ensure compliance with construction and industrial requirements, to require the removal of illicit discharges, and to address noncompliance with post-construction requirements…. The MS4 must develop and implement an enforcement response plan (ERP), which clearly describes the action to be taken for common violations associated with the construction program, industrial and commercial program, or other SWMP programs."*

Permit, section 4.5.2 - Permit Referrals: *"For those construction projects or industrial facilities subject to the TNR100000 (the NPDES general permit for stormwater discharges from construction activity) or TNR050000 (the NPDES general permit for stormwater discharges from industrial activity), the MS4 must:*

> *a. Refer facilities that cannot demonstrate that they obtained NPDES permit coverage [….]*
> *b. Refer violations to the division provided that the MS4 has documented progressive enforcement to achieve compliance with its own ordinances…. the MS4 must provide, at a minimum, the following:*
> *• Construction project or industrial facility location;…"*

We maintain that a wide range of land use classifications may be responsible for contributing pollutants into the MS4 collections system. A mention of industrial facilities, in this context, expands far beyond a definition associated with industrial stormwater runoff which requires coverage under an NPDES permit (e.g. Tennessee Multi-Sector General Permit - TMSP). Number of sites/facilities considered "industrial" is likely to be significantly higher when compared to those covered under the TMSP. Nevertheless, we expect MS4 cities to refer findings of illicit discharges or significant contribution of pollutants from state-regulated sites. Therefore, it was not our intent nor the quoted language suggests that MS4s be primarily responsible for regulating industrial discharges.

117. **Comment (4.5.2) –** If certain industrial sites have NPDES discharge permit coverage (TMSP, etc.) through TDEC, why would MS4s be expected/required to issue violations to those sites? Wouldn't the appropriate process be for an MS4 to immediately make TDEC aware of any (possible) permit violations (by

their permittees), so TDEC can bring those sites into compliance more efficiently/expeditiously given their designated permitting authority?

Response: The MS4s and TDEC share a common interest in protecting the waters of the state. It is our experience that local programs are at least as efficient in dealing with violations at industrial sites (not unlike construction sites, illicit discharges, etc.).

118. **Comment (4.5.2) –** Including industrial facilities in section 4.5.2 - Permit referrals seems to imply that the MS4 should be keeping track of what industrial facilities within its jurisdiction should be permitted under the TMSP. Even though it would be ideal for MS4s to be knowledgeable of industrial stormwater permitting requirements and to monitor compliance with those requirements, we are opposed to expanding the responsibilities of small MS4s into this area. Though the language in this section may not intend to, or necessarily, expand the MS4s program requirements toward industrial facilities, it might be interpreted that way.

In 4.5.2 a., what sort of referral is to be made? Does this mean that the MS4 should refer the construction activity or the industry to TDEC (for necessary permits) or that the MS4 must refer its knowledge of the situation to TDEC? We understand the latter.

Understand that if an industrial facility is discharging non-stormwater, or is plainly causing a condition of stormwater pollution in the city's MS4, then the city will, for its own sake, begin to compel the industry to correct its behavior. And, most likely, the MS4 will involve TDEC if the MS4 becomes aware that an NPDES permit is an issue.

If TDEC must include a section such as this one in the permit, we request that the permit referral requirements be simplified. For example:

> *If the MS4 becomes aware that a construction activity, or an industrial stormwater discharge, exists and that the discharge must be permitted under an NPDES permit but is not so permitted, the MS4 must notify TDEC of this situation.*
>
> *If the MS4 has not been able, through its enforcement mechanisms and protocol, to bring an NPDES-permitted discharge into compliance with the MS4s stormwater- and water pollution-related ordinances, then the MS4 must notify TDEC of this situation.*

Notification to TDEC should be made to staff of the Division of Water Pollution Control in the TDEC field office.

Response: The suggested language was added to the final permit.

119. **Comment (4.5.2) –** Section 4.5.2 – NPDES Permit Referrals states, in part:

> *"b. If the MS4 has not been able, through its enforcement mechanisms and protocol, to bring an NPDES-permitted discharge into compliance with the MS4s stormwater- and water pollution-related ordinances, then the MS4 must notify TDEC, at the local EFO, of this situation. In making such referrals, the MS4 must provide, at a minimum, the following:*
>
> - *Construction project or industrial facility location;*

- *Name of owner or operator;*
- *Estimated construction project size or type of industrial activity (including SIC code if known);*
- *Records of communication with the owner or operator regarding the violation, including at least two follow-up inspections, two warning letters or notices of violation, and any response from the owner or operator."*

The second sentence in the paragraph should be removed since there should be no more than 2 verbal warnings for violations before the respondent receives a written warning. Once a written warning has been issued, but violations persist, the next step (citations with fines) must be enforced. If violations persist, a stop work order must be issued. The MS4 needs the ability and the support from the state to be able to stop violations and resulting threats to water quality. It is also recommended this section provide language reiterating TDEC's and the USEPA's final authority over violations.

Response: We maintain that local MS4 should have flexibility in a decision-making process as to the implementation of their storm water management plans. The proposed language does not alter or compromise TDEC's and EPA's authority over any NPDES or Clean Water Act-related issues.

120. **Comment (4.5.4) –** A clarification of a word *chronic* and phrase *bad actor* found in section 4.5.4 – Requirements for chronic violators should be provided by TDEC. It is recommend a definition is provided for consistency which ensures the definition is not site-specific. An owner or operator with more than one permitted site must be considered "chronic" if violations persist at the various sites. Does this section refer to the term operator in the same sense as in the Construction General Permit?

Response: The term *"operator"* in this section refers to a term operator as used in the state's Construction General Permit as well as a local program's definition (which may or may not be broader). The word "*chronic"* and the term "*bad actor"* should be defined by the local MS4, as deemed appropriate to implement their storm water management program.

121. **Comment (5.1) –** What is a timeline for complying with the in-stream analytical monitoring requirements detailed in sub-part 5.1, following the approval and issuance of a "*new*" TMDL that did not exist at the time of the permit issuance?

Response: The permittee will be deemed in compliance as long as least one sample per stream segment is collected (with all segments in the MS4 jurisdiction sampled) during the five-year permit cycle. In an unlikely scenario where new TMDL is approved by EPA close to this permit's future expiration date, a consultation with divisions staff should be made in order to determine an appropriate timeline for sampling.

122. **Comment (5.1) –** Sub-part 5.1 – Analytical monitoring should be re-named *MS4 Monitoring Program*. Furthermore, contents of this sub-part should be replaced and expanded using the following language:

Within three months of the permit reissuance date, the permittee shall submit a Monitoring Plan that addresses the following four components:

- *Wet weather MS4 outfall analytical monitoring consistent with 40 CFR 122.26 (November 16, 1990). Monitoring shall be performed on homogeneous land use types.*

- *Wet weather in-stream monitoring of identified high-risk pollutants within targeted watersheds where WMPs are to be developed.*
- *Ambient (dry weather) monitoring of high-risk pollutants within targeted watersheds where WMPs are to be developed.*
- *Bioassessment monitoring within targeted watersheds where WMPs are to be developed.*

The division may approve the program as submitted, or require revisions as to parameters, sites and protocol, by showing good cause for revisions. If the state does not provide feedback to Metro on the monitoring plan submittal within 30 days, the program shall be considered approved as submitted. Sampling shall proceed within 1 month of TDEC approval and continue through the term of the permit.

5.2. Seasonal Loading Estimates

1. The permittees shall provide estimates of the seasonal pollutant load and of the event mean concentration of representative storms for the parameters listed in Table V(1), excluding pH, for each major watershed within the MS4. The permittee shall document the method used to prepare these estimates.

2. The location of all known major outfalls shall be inventoried in the Annual Report, with updates describing any additionally identified major outfalls in each subsequent Annual Report.

3. The seasonal pollutant load and event mean concentration for each major watershed may be estimated from the representative monitoring locations, from regional NURP or State data, or from pooling results from other Tennessee MS4 monitoring activities and shall take into consideration land uses and drainage areas for the outfall.

4. The estimates of seasonal loadings and event mean concentrations shall be included in the Annual Reports. For the purposes of this permit, a "major outfall" is defined as follows:

- *a pipe (or closed conveyance) system with a cross-sectional area equal to or greater than 7.07 square feet (e.g., if a single circular pipe system, an inside diameter of 36 inches or greater);*
- *a single conveyance other than a pipe, such as an open channel ditch, which is associated with a drainage area of more than 50 acres;*
- *a pipe (or closed conveyance) system, draining industrial land use, with a cross-sectional area equal to or greater than 0.79 square feet (e.g., if a single circular pipe system, an inside diameter of 12 inches or greater); or*
- *a single conveyance other than a pipe, such as an open channel ditch, which is associated with an industrial land use drainage area of more than 2 acres.*

For the purposes of this permit, a "major watershed" is defined as follows:

- *an area bounded peripherally by a parting, i.e. ridge, which directs flowing water in different directions and draining to a particular water course or body of water. A*

major watershed shall encompass a named, current USGS, waterbody. A major watershed may contain one or more major outfalls.

5. The flow basis of the seasonal loadings shall be reported along with the estimates. In addition, an estimate for total runoff from all separate storm sewer system outfalls for the entire City of Nashville area for the year shall be reported in each Annual Report.

Response: The stormwater program components presented above applicable to Phase II municipalities are already required in developing a Stormwater Management Program. Stormwater Management Program refers to a comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system.

123. **Comment (5.1) –** Sub-part 5.1 – Analytical monitoring does not provide enough data to demonstrate improvements in water quality, compliance with TMDLs, or any other significantly measurable information. The following requirements must be included for the monitoring to serve any real purpose:

- Stormwater coming from constructions sites should be sampled each time there is ¼" rain event;
- If in-stream sampling is required, samples must be collected up stream for comparison; however, outfall sampling is preferred in order to actually assess pollutant load from construction sites;
- A sampling plan should be developed that includes benthic monitoring conducted no less frequent than annually and should include at least one sample upstream and downstream of the jurisdiction and in major tributaries in the jurisdiction. Each sampling plan should be approved by TDEC and available for review and comment by the public;
- Sampling impaired waters should include those listed as impaired on the 303(d) list as well as immediate tributaries to those waterbodies;
- Sample outfalls and construction sites—this will focus more clearly on sources of pollutants in the MS4 system. The samples would be analyzed for NTUs to see if they comply with EPA's new construction ELG. For outfalls or construction sites in 303(d) listed drainage areas, the concentration would be derived from the WLA in the TMDL.

The EPA letter dated April 15 dedicates a significant portion of the instruction to addressing those MS4 waterbodies for which a TMDL has been approved. The MS4 must demonstrate compliance with the Wasteload Allocation in any applicable TMDL. In order for the MS4 to do this, more frequent and accurate monitoring requirements are necessary. As noted in the letter, EPA expects language in the permit which describes specific actions by the permittee. The language in this draft permit falls short of this expectation. MS4 sampling data will not demonstrate compliance with a WLA nor will it show measurable improvements if sampling is conducted on such an infrequent and inadequate basis.

Demonstrating compliance with standards and TMDL allocations appears to be a priority with the EPA. It is requested additional language be included in this permit stating the inability of a Phase II MS4 to demonstrate compliance with a WLA or a water quality standards results in requiring coverage under an individual MS4 permit. This would ensure specific components are included in the permit to address the particular MS4's needs and appropriate controls.

Response: We are familiar with EPA's April 15th and May 14th letters. All recommendations from those letters were incorporated in the final permit. We encourage all permittees to collect as much outfall and in-stream data as possible. However, some of the sampling requirements suggested in this comment would place an unreasonable burden on permittees without providing definitive answers to water quality issues.

124. **Comment (5.1 and 5.2) –** There should be no analytical and non-analytical monitoring requirements of non-TMDL listed streams.

Response: Designated uses must be protected on all streams not just those that are assessed as impaired or have a TMDL developed. Analytical and non-analytical monitoring are effective methods of evaluation of water quality. Both analytical and non-analytical monitoring requirements will be retained in the final permit.

125. **Comment (5.1 and 5.2) –** The permit should clarify if there are any restrictions for who can perform the sampling procedures, assuming that all sampling protocols are followed. The commenter also wanted to know if the division would provide be any training regarding the sampling procedures.

Response: The sample collection, chain of custody, analysis and reporting requirements in this permit are no different than any other NPDES permit issued in the State of Tennessee. Specific requirements are listed in sub-part 5.1:

> *"When the MS4 conducts monitoring of stormwater discharges, or of receiving waters, the MS4 must comply with the following:*
>
> *a. Representative monitoring. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.*
>
> *b. Test Procedures. Monitoring results must be conducted according to test procedures approved under 40 CFR §136.*
>
> *Records of monitoring information shall include:*
>
> - *The date, exact place indicated by latitude and longitude, and time of sampling or measurements;*
> - *The names(s) of the individual(s) who performed the sampling or measurements;*
> - *The date(s) analyses were performed;*
> - *The names of the individuals who performed the analyses;*
> - *The analytical techniques or methods used; and*
> - *The results of such analyses."*

126. **Comment (5.1 and 5.2) –** Will the TMDL sampling cycle be aligned with the MS4 permit cycle (and now the sampling cycle for impaired, non-TMDL streams)? If yes, when will this alignment occur?

Response: The watersheds in Tennessee have been divided into five groups based on the year of implementation in a five-year cycle. The division bases its activities for each group by the group's position in the cycle. The cycle also coincides with the issuance and duration of individual NPDES permits. Since this is a general permit, the permit area covers the entire State of Tennessee, and it includes all five groups. It would be impossible to align sampling requirements in the permit with each municipality's position in the cycle.

127. **Comment (5.1 and 5.2) –** Some streams have TMDLs where the impairment is not being caused by discharges from the MS4 within which the stream segment is located. In addition, non-urban discharges are indicated as the sources of some impairments. Where discharges from the MS4 have not been identified as a source of the impairment, the MS4 should not be required to monitor. The Annual Report form supports this with the language in 3.B. We suggest the following additions:

> *"5.1: For stream segments identified as being impaired for siltation and/or habitat alteration, <u>where discharges from the MS4 have been identified as a source of the impairment</u>, biological stream sampling must be performed…*
> *For stream segments identified as being impaired for pathogens, <u>where discharges from the MS4 have been identified as a source of the impairment</u>, sampling must be performed utilizing methods identified….*
> *For stream segments subject to TMDLs for parameters other than siltation, habitat alteration or pathogens, <u>where discharges from the MS4 have been identified as a source of the impairment</u>, the MS4 shall perform analytical monitoring as prescribed in the TMDL.*
>
> *5.2: <u>Where discharges from MS4s have been identified as a source of the impairment</u>, Visual Stream Surveys and Impairment Inventories must be performed on streams impaired for siltation, habitat alteration and, pathogens in order to identify and prioritize MS4 stream impairment sources."*

The permit should clarify if sampling will be required for these streams when all evidence points to agriculture as the source of pollutants.

Response: The proposed changes have been included in the final permit.

128. **Comment (5.2) –** Sub-part 5.2 – Non-analytical monitoring contains a redundant requirement for recording "*the names of the individuals who performed the observation/monitoring*".

Response: The redundant requirement was removed from the final permit.

129. **Comment (5.2) –** The value of visual stream surveys for stormwater programs, as required in sub-part 5.2 – Non-analytical monitoring cannot be overstated. Robby Karesh used the EPA rapid stream Assessment-Habitat Assessment Data Sheets and the CWP Riparian Improvement tracking forms as part of the work on HRWA's EPA grant with the city of Franklin and Williamson County. These forms make it easy to gather standardized visual data that can easily be mapped to create a basic idea of the problem areas and priorities to form one foundation of a subwatershed plan. Thus, there are three purposes of monitoring: to find MS4 related causes to impairment, to monitor and enforce permitted activities and the MS4 system for permit violations, and to monitor receiving water quality. The latter two can both be designed to evaluate the effectiveness of the MS4's stormwater management program. The monitoring has to be at a minimum as

frequently as annually to provide some feedback so the MS4 jurisdiction can modify its program in an adaptive management as expected by EPA in its April letter. TDEC should sponsor inexpensive training on a survey protocol for non-analytical monitoring required in sub-part 5.2 of the permit

Response: We share the commenter's enthusiasm in regards to importance of visual stream surveys. Guidance and training for MS4 has been, and will be continually provided through workshops, Qualifying Local Program stakeholder committee meetings, division's presence in association meetings, as well as during routine inspections.

130. **Comment (5.3) –** Adding more detailed requirements adds to recordkeeping requirements for the MS4. For every new requirement, the MS4 is now responsible to show (prove) that it is complying with that requirement, and that means retaining evidence and a sustainable procedure for keeping track of those activities. The extra recordkeeping, to be accurate and sustainable, should be set up as a part of the process of accomplishing the task, and this requires new procedures or changes in procedures. Some observations:

Public education and outreach:
- The existing permit requirement is stated in two sections, in two sentences.
- The proposed permit includes eight sentences.

Public involvement and participation:
- The existing permit states the requirement in one sentence, simply that the City must comply with State and local public notice requirements.
- The proposed permit includes five paragraphs and about twelve sentences.

BMP maintenance:
- The current permit includes the requirement that the local MS4 government must "*ensure adequate long-term operation and maintenance of BMPs*."
- The new permit contains two pages of details on how to do this.

Enforcement response plan:
- The current permit includes a few statements that the MS4 must have enforcement mechanisms.
- The new permit includes two pages of details on what an enforcement response plan must contain.

Response: A number of commenters and interested parties (during the previous permit term) had expressed frustration with lack of detail required to establish and demonstrate compliance with permit terms and conditions. Verbiage included in the final permit accomplishes that task, by clarifying permit language and minimizing ambiguity for what is considered minimum compliance requirements. The proposed level of documentation will benefit MS4 as they will be able to verify permit compliance and track accomplishments.

131. **Comment (5.4) –** Though there are advantages to preparing an annual report in the wintertime, the commenters would rather have an MS4 report year to match a typical fiscal year, which is July-June. Consider giving each MS4 the opportunity to select their report year as either fiscal year or calendar year. Along the same lines, another commenter stated: Currently the report is due by September 30 for the previous fiscal year giving MS4's three (3) months to complete the report and hold a public meeting concerning the report. This new time table only allows one (1) month to accomplish both and the advertising time alone for a public meeting will be difficult to accomplish. Changing this requirement to fiscal year covered would provide seven (7) months to submit. However if this is adjusted it does not need to shorten the time from the end of the

reporting period to the submittal deadline. Three months should be maintained as a minimum time frame for preparation, public meeting and submittal to TDEC.

Response: The final permit, sub-part 5.4 – Reporting, was modified to say:

> *The MS4 must submit an annual report to the appropriate EFO by September 30 of each calendar year that covers the previous fiscal year.*

Due to the number of permitted municipalities and related compliance tracking issues, a provision for selecting individual reporting periods cannot be made.

132. **Comment (5.4) –** All annual reports, as described in sub-part 5.4 – Reporting should be available online from TDEC's Storm Water Permitting Phase II MS4s website. This will provide for public access to information regarding individual Phase II communities and the status of their permit requirements.

Response: Although we agree this is a great idea, we currently cannot commit resources to scan and post all annual reports on our web page. The division will consider this as resources allow.

133. **Comment (5.4) –** If the new MS4 permit will be issued soon enough for MS4s to become permitted prior to September 30th of 2010, then dispense with an annual report for the 2009-2010 report year.

For instance, if the new permit will be issued August 1st, 2010, then either explicitly provide in the new permit that an annual report is not required for the 2009-10 fiscal year; and/or provide opportunity for MS4s to be covered under the new permit prior to September 30th. Then if the new report year is the calendar year, make it clear that the first annual report is due for the 2011 calendar year. If the new report year is July-June, make it clear in the permit that the first annual report is due for the partial year 2010-2011.

Once the new permit is issued, permittees are going to be loath to prepare a report based on an expired and passé permit. We will have plenty of planning, goal setting and recordkeeping to begin under requirements of the new permit.

Note that the Phase II NPDES regulations do not require annual reports after the first permit term. See 40 CFR § 122.34 (g) (3):

(3) Reporting. Unless you are relying on another entity to satisfy your NPDES permit obligations under § 122.35(a), you must submit annual reports to the NPDES permitting authority for your first permit term. For subsequent permit terms, you must submit reports in year two and four unless the NPDES permitting authority requires more frequent reports.

In the case of Tennessee, the first permit term was February, 2003, to February, 2008. Thus, there is no federal NPDES requirement that Tennessee small MS4s submit an annual report for the 2009-2010 fiscal year.

Response: With the modifications made to the proposed Annual Report, primarily requiring greater detail, we expect that the reporting process will be more valuable to the MS4 in assessing effectiveness and identifying opportunities for program improvement. Therefore, we are retaining the annual reporting frequency. Concerning an annual report for the 2009-10 fiscal year, as noted in the response to comment 20 above, the proposed permit has been modified to require the submittal of an annual report to the appropriate EFO by

September 30 of each calendar year. It is anticipated that preparation of the 2009-2010 annual report will be an important resource to the MS4 as it completes the new Notice of Intent.

134. **Comment (5.4) –** A public hearing should not be required prior to submittal of annual report to the division. The annual report is simply a compilation of facts compiled during the previous fiscal year. Therefore, public suggestions and comments would have little or no impact on the substance of the report. The annual report can be made available for public review, but receipt and resolution of comments should not be required prior to submission to TDEC. Instead, the final permit should require for annual reports be made readily available to the public.

Response: The third sentence of sub-part 5.4 was edited to say: "*Prior to submitting the annual report to the division, the MS4 must make the annual report available for public review for suggestions and comment*." Resolution of comments received from the public is not a prerequisite for the annual report submittal.

135. **Comment (5.4) –** The annual report should include "required date of item completion" and a corresponding blank space for the MS4 to complete (or provide anticipated dates of completion). Without this clarification, checking "no" for any BMP gives the appearance of permit non-compliance to the casual observer.

Response: We encourage MS4s to provide anticipated dates of completion for any BMPs, but do not think providing additional space on the form would encourage compliance with permit conditions. We are unaware of any instances where checking "no" on the annual report form resulted in an enforcement action.

136. **Comment (6.18) –** Sub-part 6.18 – Planned Changes requires MS4s to give notice to the division as soon as possible of any planned physical alterations or additions to the permitted facility. While this requirement may be appropriate for municipal or industrial wastewater treatment plants, it may be confusing in respect to MS4 management issues.

Response: We hope this requirement will cause no confusion with respect to MS4 management issues. Language included in sub-part 6.18 is taken verbatim from federal rules: 40 CFR 122.41 – *Conditions applicable to all permits*, and, as the title indicates, must be included in all NPDES permits.

137. **Comment (7) –** Even though the water quality buffer defined in part 7 of the draft permit is not, in terms of width, much different than the definition that the City of Murfreesboro developed under the existing (2003) MS4 permit, we request that this new MS4 permit allow Murfreesboro to continue to use its present definition of water quality buffer.

The City of Murfreesboro spent two years developing an ordinance to implement a water quality buffer requirement. This involved numerous meetings among staff, development of an extensive rationale sheet (13 pages with three key references; and numerous supplementary references), an eight-page ordinance, and public meetings.

We would not expect such a difficult road to change the ordinance, but we would rather have the opportunity to keep what we have in place, believing it to be especially well crafted for our locale.

We estimate that if we adopt the proposed 30 ft/ 60 ft buffer definition, some streams in Murfreesboro would see a slightly smaller buffer (30 feet rather than 35 feet; these generally being the smaller streams); some

would see a little wider (60 feet rather than Murfreesboro's 50 feet) buffer (these being the larger streams and rivers).

Response: We acknowledge that in some cases MS4s will need to adjust their local ordinances to meet the minimum buffer widths identified in the proposed permit. We also understand the lengthy and sometimes difficult process that must be completed in order to achieve consensus and adopt effective new ordinances and policies. However, to add clarity and detail, setting minimum buffer widths in the proposed permit is necessary. The proposed widths are based on our experience with water quality stream buffers established through previous MS4 and Construction General Permits, and are expected to be protective and reasonable for statewide application

138. **Comment (7) –** A term "*operator*" should be added to part 7 - definitions.

Response: The term "*operator*", is defined in the 40 CFR 122.2: "*Owner or operator means the owner or operator of any ``facility or activity'' subject to regulation under the NPDES program*." This definition will be added to the final permit.

139. **Comment (7) –** The definition of "redevelopment" does not seem to be consistent with the permanent stormwater management program goals in Section 4.2.5, nor on the disturbed acreage threshold established by EPA for the application of the Phase 2 regulations. We suggest the following definition:

> *"Redevelopment means the alteration of developed land that disturbs one acre or more, or less than an acre if part of a larger common plan of development, and increases the site impervious footprint […]"*

Response: The definition of redevelopment was changed to read:

> ***"Redevelopment** means the alteration of developed land that disturbs one acre or more, or less than an acre if part of a larger common plan of development, and increases the site or building impervious footprint, or offers a new opportunity for stormwater controls. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse stormwater quality impacts."*

140. **Comment (7) –** Following sentence should be added to the definition of SWPPP: "*The SWPPP shall be prepared in accordance with the Tennessee Erosion and Sediment Control Handbook or local BMP Manual, whichever is more stringent and protective of waters of the state*."

Response: The definition was expanded to include proposed language.

141. **Comment (7) –** The definition for the "*priority construction activity*" should add phrase "*or habitat alteration*" after phrase "*for siltation*."

Response: The proposed change was made in the final permit.

142. **Comment (7) –** TDEC should provide more specificity on the water quality buffer requirement. We strongly support this need, and would like to urge TDEC to make some adjustments to the definition to bring it in line with the latest scientific information and regulatory experience from around the country. Several of

the people who prepared these comments sit on stormwater appeals boards and/or work with and provide stormwater workshops for local jurisdictions.

Literature reviews in the past decade (from Seth Wenger in 1999 to the December 2009 one in the Stormwater Journal) continue to build robust data on the value of vegetated buffers adjacent to waterways up to 50 feet in width at a minimum to provide substantial benefits for protecting and enhancing water quality. What is as important as the minimum width from top of the active channel is what is allowed or prohibited in this buffer. Stormwater jurisdictions write their stormwater regulations a bit differently based on many things. So it is important in this permit to specify that this width is a "no-touch zone" which is to be maintained in or restored to native vegetated conditions.

The other aspect of the recent literature reviews and work of various stormwater coordinators in compiling buffer ordinances to help them adopt theirs in their local jurisdiction is that there is now at least 5 years of track record of hundreds of Phase II MS4 jurisdictions around the country having adopted and implemented water quality buffers. It is no longer such a lightning rod aspect of regulation that the development community sometimes used to slow down the adoption of required, and now proven effective, stormwater ordinances. These reviews show a range of buffer widths, but it is important to analyze based on what is allowed and prohibited in these buffers. Also, the scientific literature also has a wide range of widths that is dependent on the management goal: from pollutant load reduction to wildlife habitat corridors.

With this history of regulatory experience by Phase II MS4s and the expanding scientific literature, TDEC has ample supporting documentation to adjust this buffer definition to more closely align with the scientific literature. The draft language here needs to specify more clearly what cannot be allowed in the "no touch" buffer, what can, and require the slope and adjacent water features be addressed in the determination of the buffer width. The Center Watershed Protection, Wenger, and others have similar guidelines that each stormwater jurisdiction can use to tailor to their situation as long as the minimum set in this permit are met.

We strongly recommend that the draft language be modified from 30 and 60 foot minimums to establish a minimum 50 foot buffer plus 2 feet per 1% of slope for drainage areas less than one square mile, and a 100 feet minimum for drainage areas greater than 1 square mile. Also the buffer must be extended by the width of adjacent wetlands or other water ways, such as springs. In this draft, TDEC allows for averaging of the larger buffer width as long as a minimum width is maintained. While some jurisdictions and the TN's general construction permit allows for averaging the buffer, many jurisdictions do not like it since it is not as straightforward to regulate. We are not in favor of averaging and would recommend that this be removed from the draft. Instead, the permit should state that any wavier or appeals need to establish a minimum width and other criteria for granting any waivers or appeals. All applicants have the option of proposing a plan that does not meet local jurisdictions' ordinance be appealing to the local jurisdiction's local appeals board. The latter reduces the number of proposed averaging plan proposals because of the added expense of going through the appeal process as opposed to meeting the requirement.

Springs need to be included in the water ways for which the water quality buffer applies. Also, more specify is needed in defining "native" vegetation. It is too vague and open to interpretation in this draft. While it is unrealistic to insist these buffers be kept clear of invasive species, it is not unrealistic to insist all new plantings within water quality buffers must be of plants native to the county where the project is happening and suitable for planting in riparian zones. The fact that a plant is native to Tennessee is not sufficient. Language such as "*preferably native to the streamside habitat in the area of the project*" would be an improvement. Proposed language:

> "Water quality buffer means ….. bordering streams, ponds, wetlands, springs, reservoirs or lakes…The goal of the water quality buffer is undisturbed vegetation that is native the streamside habitat in the area of the project, Vegetated, ~~preferably native~~, water quality buffers…..Streams or other waters with drainage areas less than 1 square mile as determined at the project site will require buffer widths of 50 feet minimum plus 2 feet per 1% degree of slope. The water quality buffer width will be extended to include adjacent water bodies that fall within the buffer area. Streams or other waters with drainage areas greater than 1 square mile as determined at the project site will require buffer widths of 100 feet minimum plus 2 feet per 1% degree of slope. ~~The 60-feet criterion for the width of the buffer zone can be established as an average width basis at a project, as long as the minimum width of the buffer zone is more than 30 feet at any measured location~~."

Response: Most of the proposed language, with some minor corrections was included to the definition of the "water quality buffer." An exception was language requiring additional buffer width for sites with steep slopes. We believe that proposed language will provide adequate protection at all sites, including those with steep slopes.

143. **Comment (7) –** The definition for a water quality buffer needs to be expanded in order to provide clarification for the following issues. Does "drainage areas" apply to the total drainage area for the particular stream, or the amount of drainage area contributing to a stream at a particular project site? What if a channel drains 1 square mile but does not support aquatic life and is deemed a wet-weather conveyance? Also, are there any types of land use activities or infrastructure, such as pervious footpaths, utilities, view corridors, greenways, impervious footpaths, bike paths, or selective forest management allowed in within the 30ft or 60ft buffer? We are in favor of the 30ft and 60ft requirement, but we also want people to be able to enjoy the streams.

Response: Drainage area referred in the definition of the "water quality buffer" refers to the drainage area contributing to in-stream flow at a particular project site. Water quality buffer requirements do not apply to wet-weather conveyances, regardless of the size of a corresponding drainage area. Language allowing for land uses within the water quality buffer was added to the definition (see comment number 150 below).

144. **Comment (7) –** There is no mention, in the definition of water quality buffer, of allowances for road or utility crossings, of the possibility of variances, of special conditions in the case of redevelopment properties or for wetlands or lakes or spring-fed streams. We would take the 30 foot/60 foot width requirement to be the overall standard but that details would be specified by the MS4.

Response: The definition of *"water quality buffer"* was modified to say, in part:

> *Every attempt should be made for development and redevelopment activities not to take place within the buffer zone. If water quality buffer widths as defined above cannot be fully accomplished on-site , the MS4 must develop and apply criteria for determining the circumstances under which alternative buffer widths will be available. A determination that water quality buffer widths cannot be met on site may not be based solely on the difficulty or cost of implementing measures, but must include multiple criteria, such as: type of project, existing land use and physical conditions that preclude use of these practices.*

145. **Comment (Appendix B) –** MS4 Annual Report (contained in Appendix B), Section 3.B - Water Quality Priorities should be modified to address following concerns:

- Extra space should be provided in this section because some MS4s have multiple impaired streams with TMDLs;
- "Outstanding National Resource Waters" (ONRWs) should be defined;
- Why is the MS4 asked to report the **3** most common violations? Why not ask for just the most common that occurred that particular year. Some MS4s may only have one reoccurring type of violation in its jurisdiction

Response: Extra space was added to the section. Definitions for Exceptional TN Waters (ETWs) or Outstanding National Resource Waters (ONRWs) can be found in the TDEC Rules, Chapter 1200-4-3 – General Water Quality Criteria. Hyperlinks to the General Water Quality Criteria document were added. Those MS4s that have less than three reoccurring types of violations should report one or two types documented during inspections. We consider this, however, to be a very unlikely scenario.

146. **Comment (Appendix B) –** MS4 Annual Report (contained in Appendix B), Section 8. It is assumed that this section of the NOI refers to Section 4.2.6 of the permit. Section 4.2.6 does not require the development of stormwater pollution prevention plans for any maintenance activities or municipal buildings, yet Section 8 of the NOI asks the MS4 if stormwater pollution prevention plans have been developed. Suggested alternative language is:

> "*Have the following facilities been evaluated for their potential impact on stormwater quality? If so, have management plans been developed to address those potential impacts*?"

Response: The proposed language asks two yes/no questions, with space on the form provided for only one answer. Consequently, the proposed language was taken under consideration, but will be included in a following format: "*The following facilities should be evaluated for their potential impact on stormwater quality. Have management plans been developed to address those potential impacts?"*

147. **Comment (Appendix B) –** MS4 Annual Report (contained in Appendix B), Section 11. Many MS4s utilize consulting services to manage portions of their stormwater programs. Item E. in particular does not include consulting services that supplement some MS4 staff. We recommend the following additional language for Item E, after the existing language:

> "*Does your MS4 retain the service of a consulting firm to perform portions of the requirements of this permit? If yes, provide an estimate of man-hours provided by consulting services*"

Response: The proposed language was added to Appendix B, Section 11, item F.

Corrections

Various corrections for typographical errors, internal document cross-references and web addresses, for unclear meaning and for inconsistent requirements have been made to the permit. Not all such corrections are itemized in this notice of determination, as they did not affect the meaning of the permit. For more details about Phase II MS4 program, see our web page at http://tn.gov/environment/wpc/stormh2o/MS4II.shtml.

Final Determination

It is the determination of the division that NPDES General Permit No.TNS000000 be issued including corrections described in this notice of determination.

_____ _____

Vojin Janjic
Manager, Permit Section
Tennessee Division of Water Pollution Control

Date